Disposal and Reuse of
Fleet and Industrial Supply Center, Oakland
Vision 2000 Maritime Development

Draft Environmental Impact Statement/ Environmental Impact Report

SCH #96062010

Volume II

March 1997

FLEET AND INDUSTRIAL SUPPLY CENTER, OAKLAND
and
PORT OF OAKLAND, CALIFORNIA

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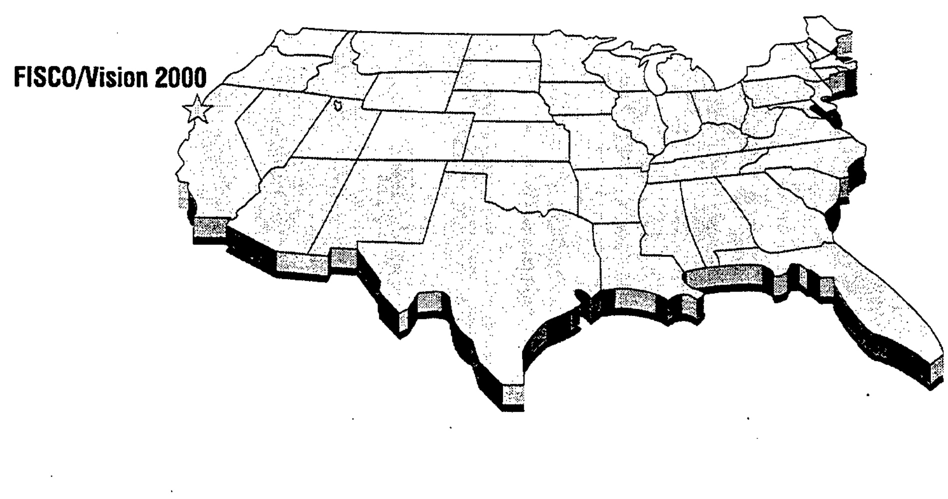

APPENDIX A
VISUAL RESOURCES ON SITE

APPENDIX A:
Visual Resources on Site

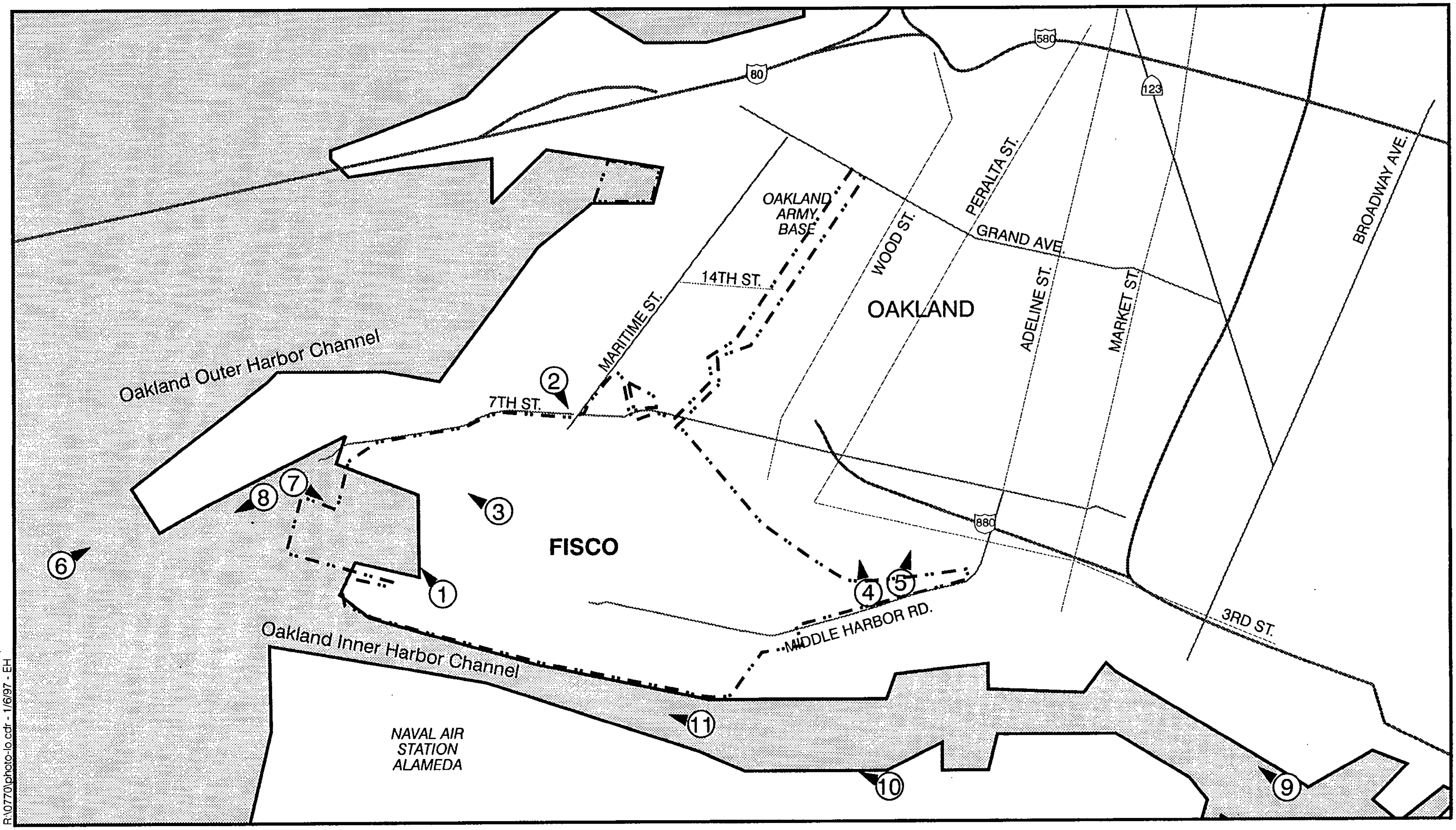

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Photo-Location Map

Port of Oakland

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Photopoint Locations

Project Site

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Figure A-1

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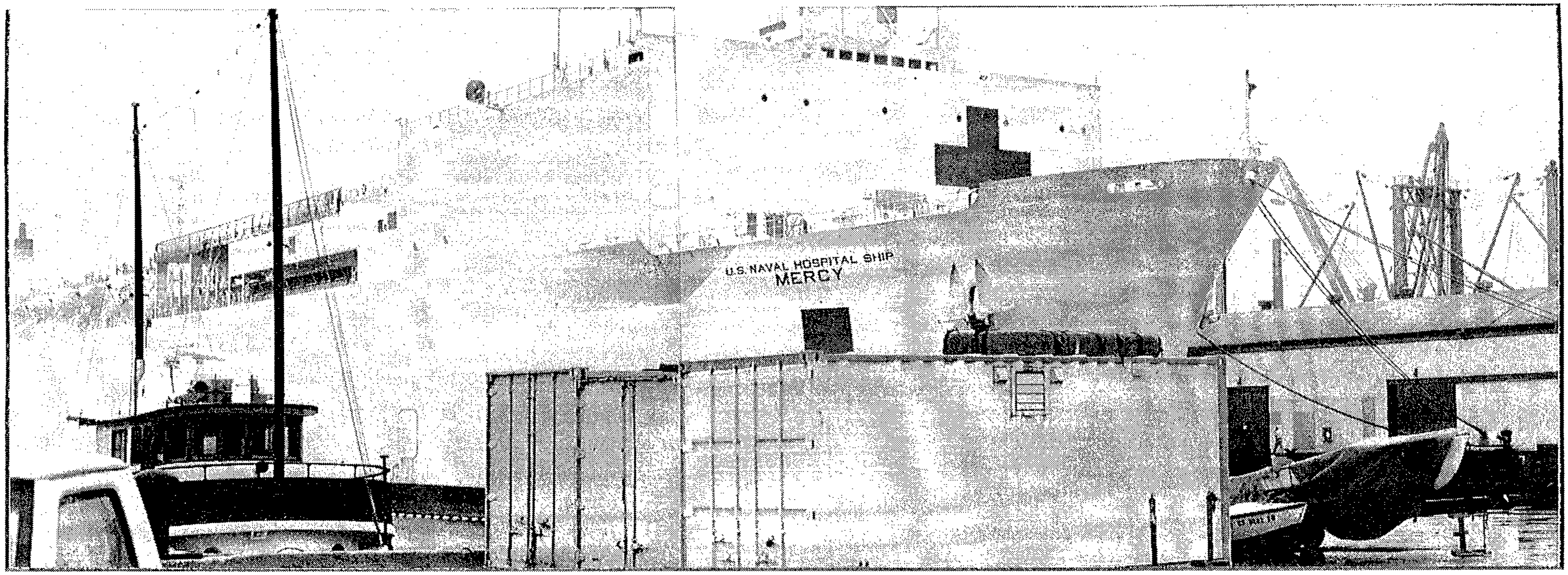
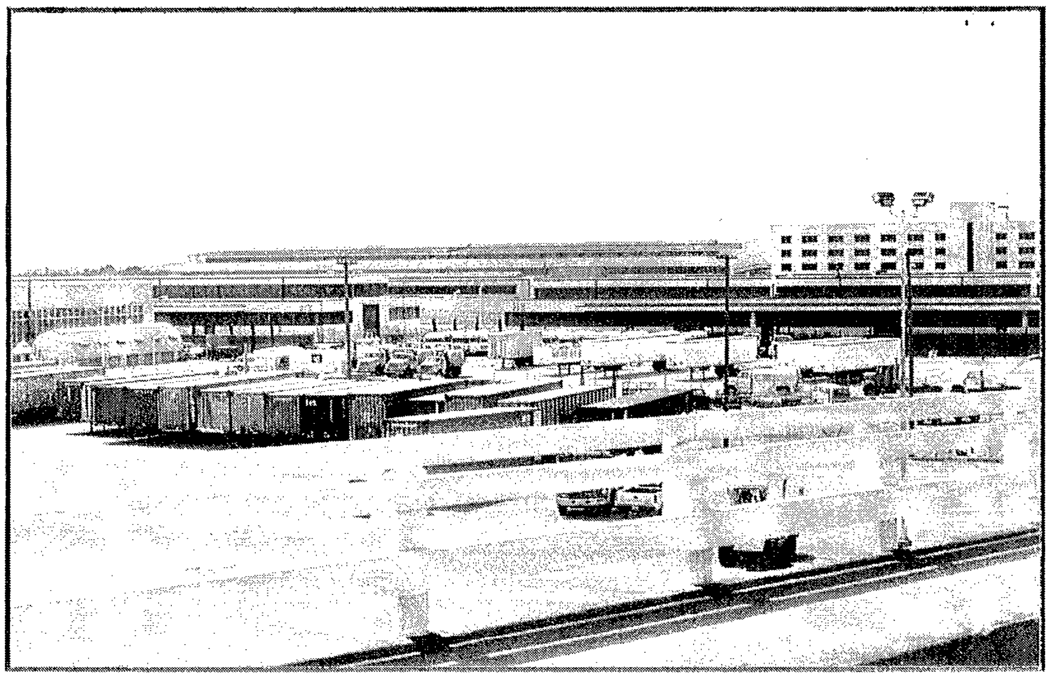
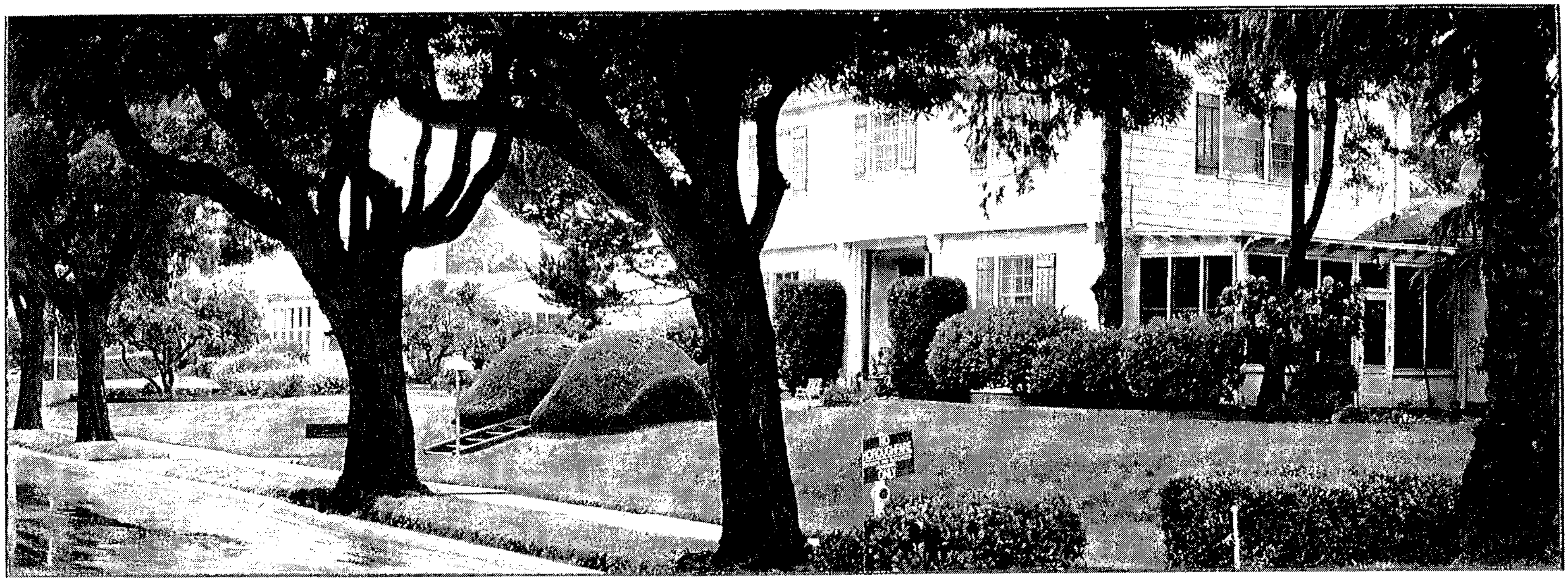
Not to Scale

Source: BCDC 1969; MTC 1996

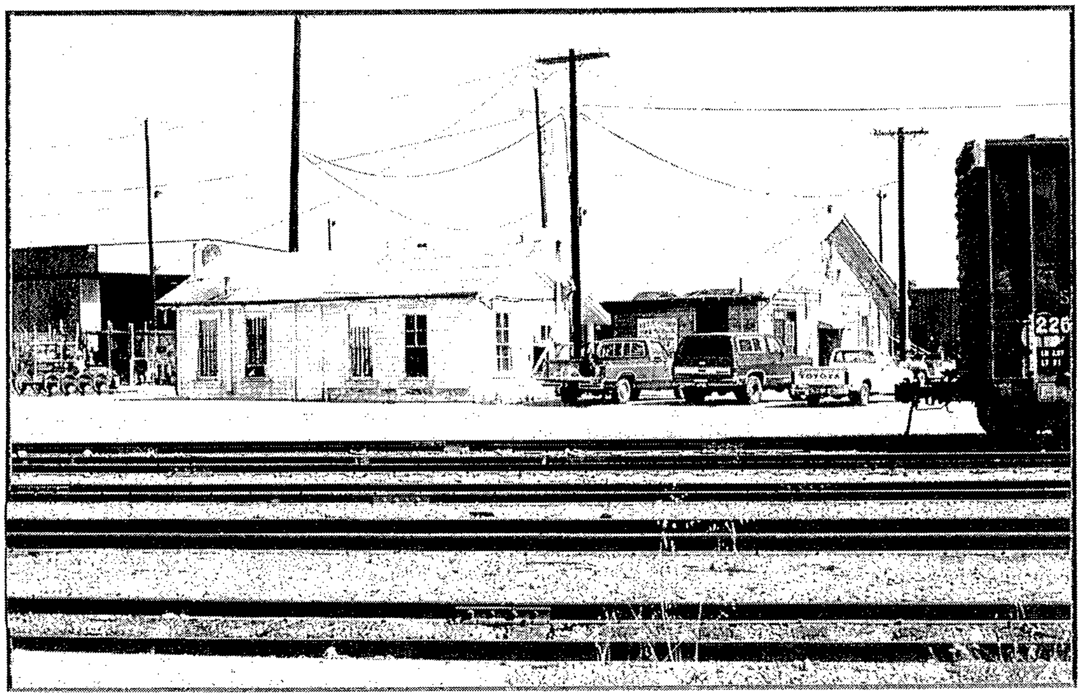


1. USNS Mercy Berthed at FISCO's East Marginal Warf

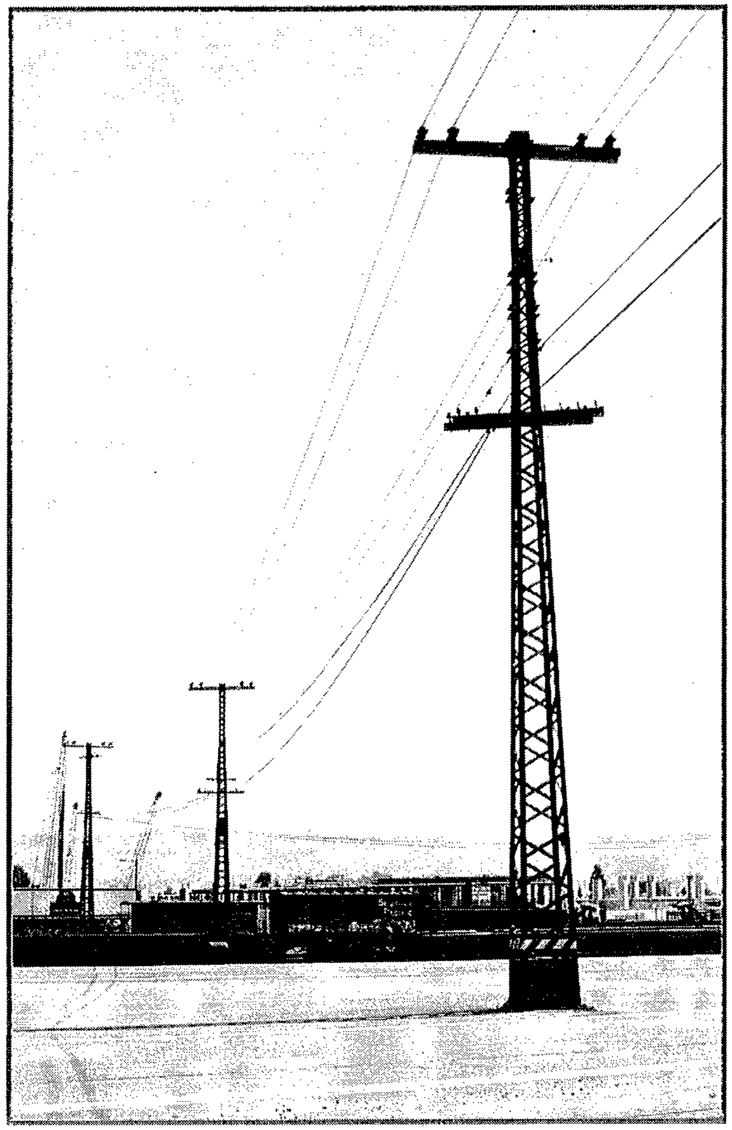

2. FISCO Main Warehouse Area



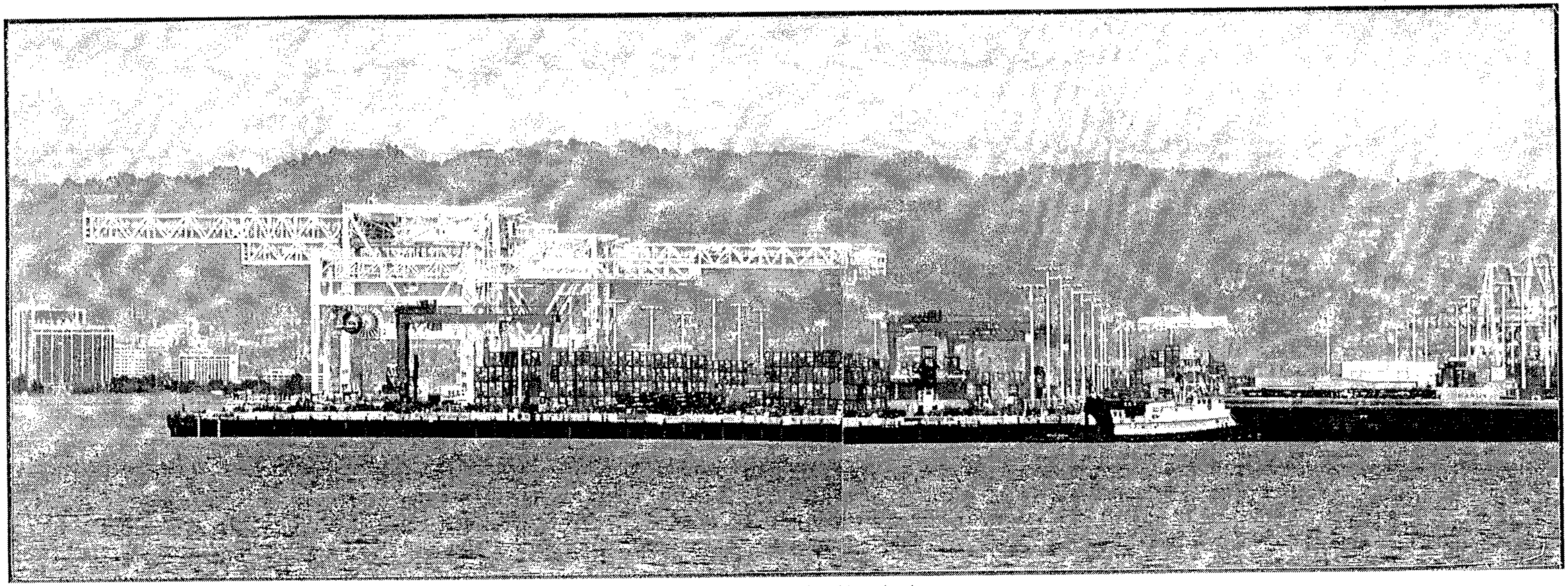
3. FISCO Officer's Housing Area



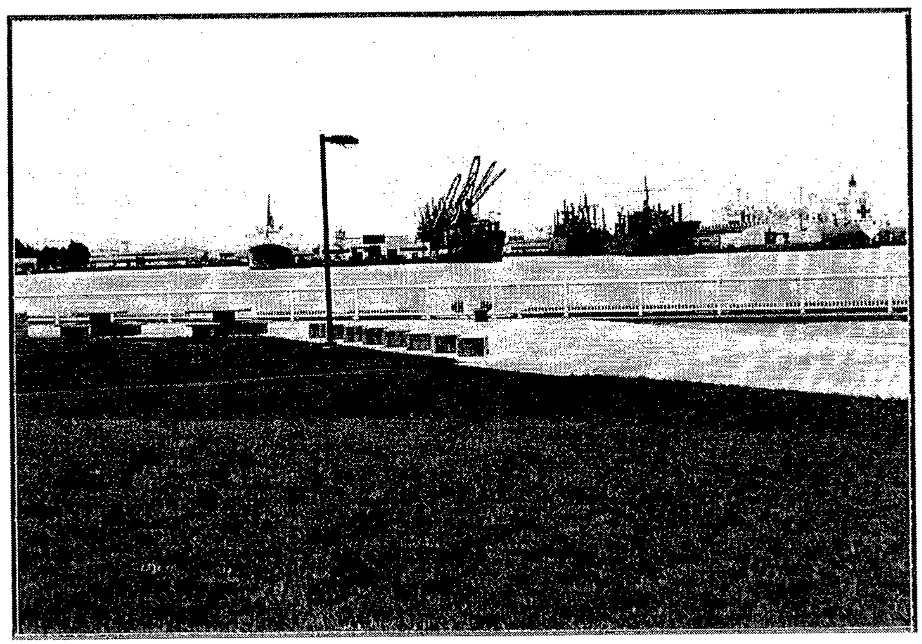
4. Older Buildings in the Southern Pacific Yard



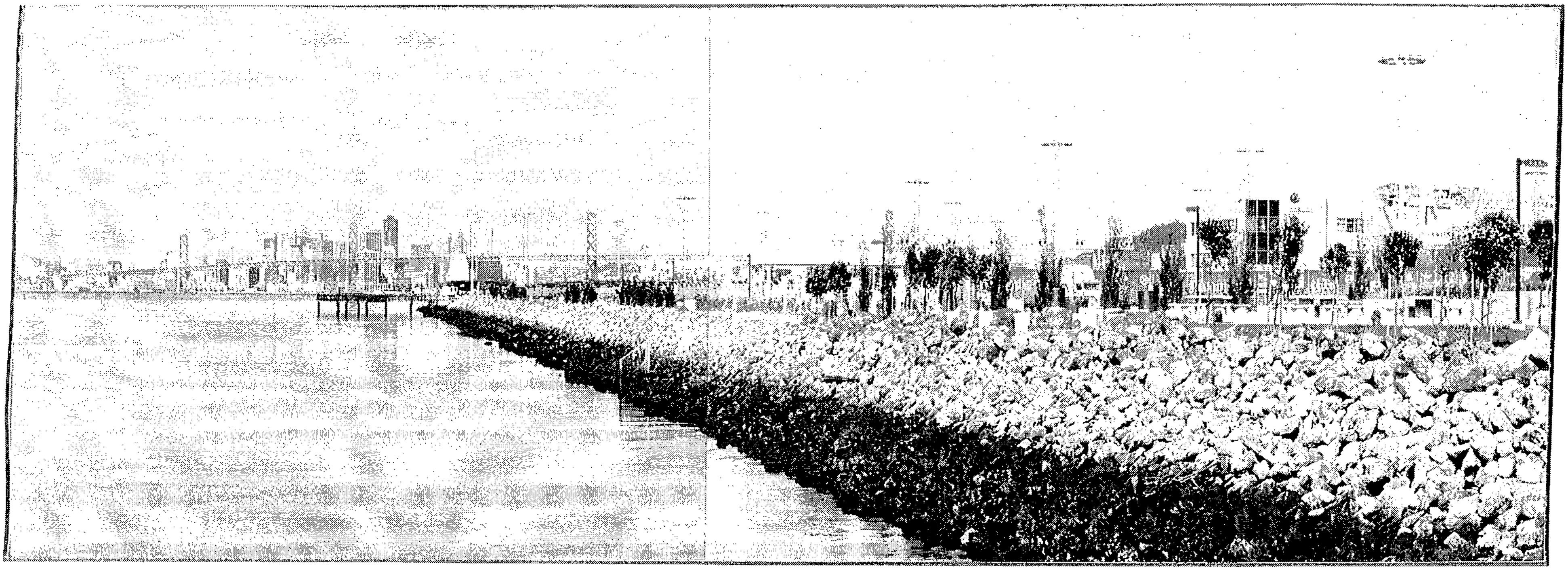
5. Older Transmission Line Structures in the Southern Pacific Yard



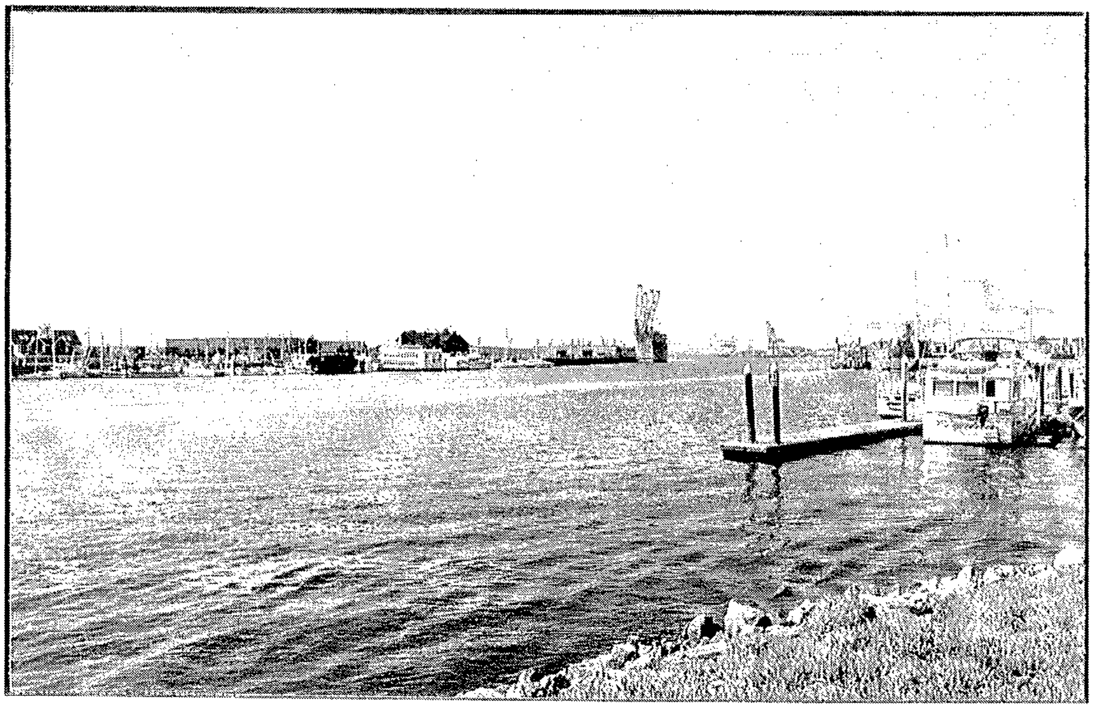
6. Outer Harbor Marine Terminal



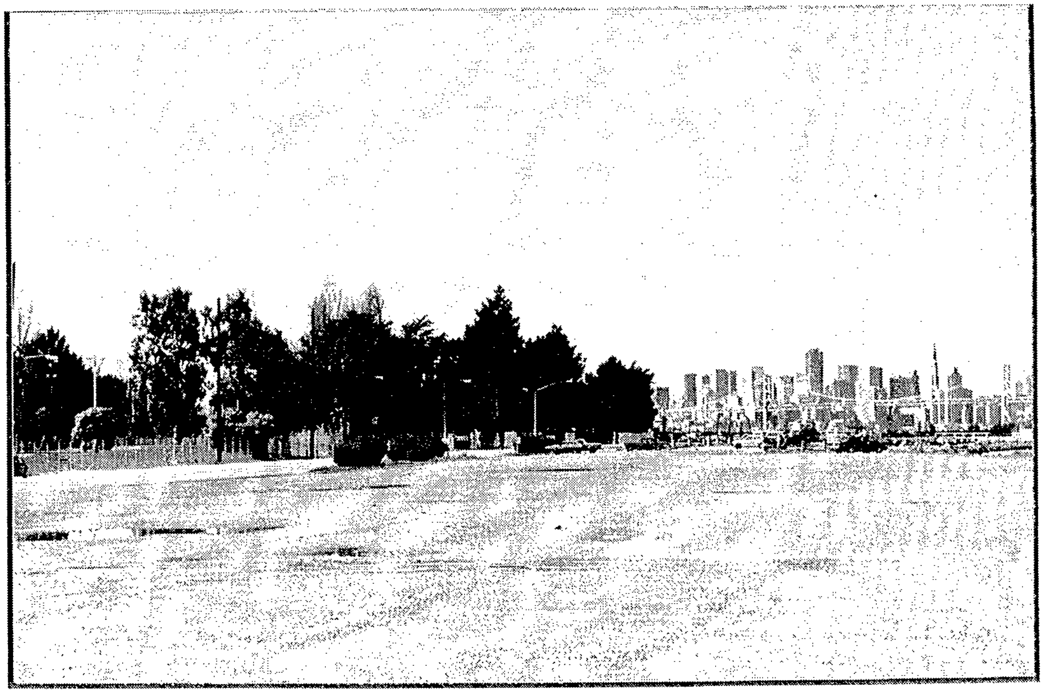
7. View from Port View Park Towards FISCO Wharves



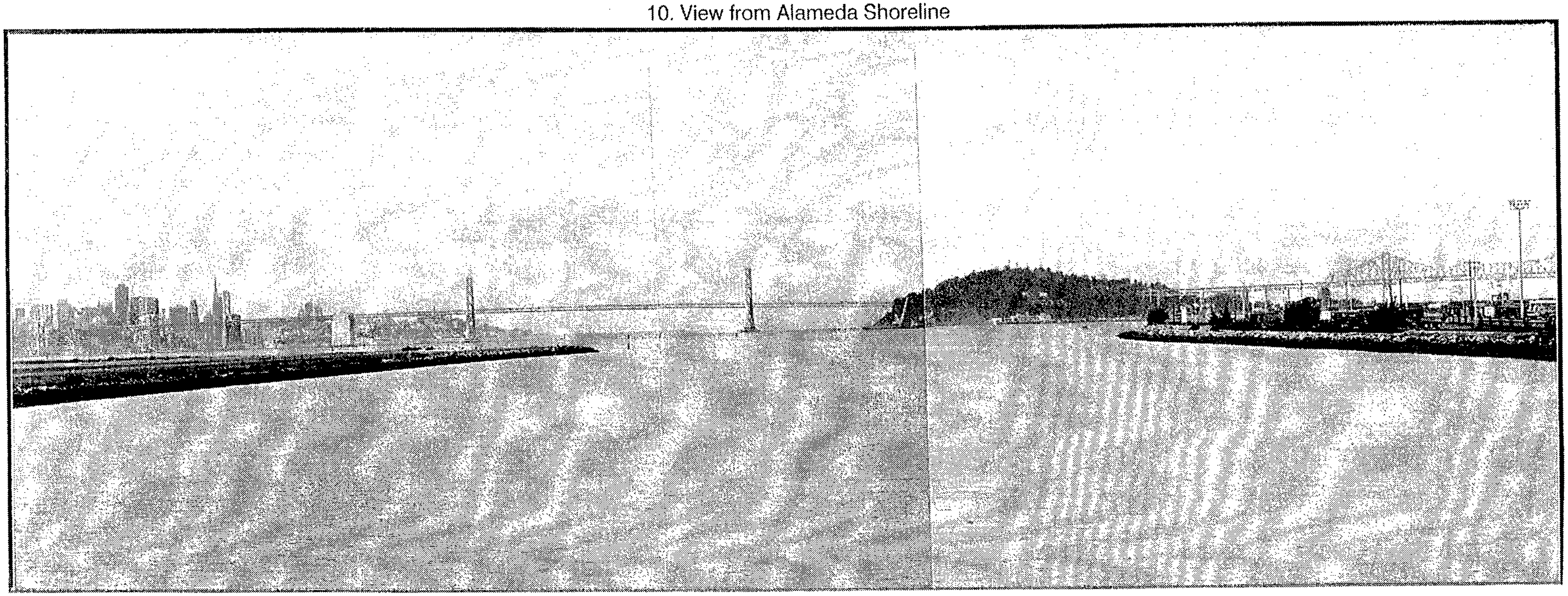
8. View from Port View Park Towards San Francisco



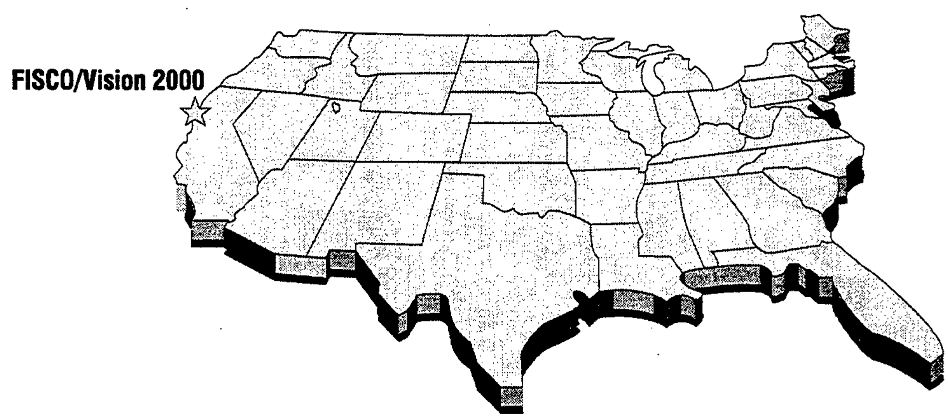
9. View from Jack London Village



10. View from Alameda Shoreline



11. Panaromic View of San Francisco and Bay Bridge (seen from Oakland)



APPENDIX B
SPECIAL LEGISLATION RELATING TO FISCO

Appendix B
Special Legislation Relating to FISCO

B.1. DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION FINDINGS AND RECOMMENDATIONS

The Secretary of Defense, in compliance with Public Law 101-510, as amended, officially transmitted his recommendations for base closures and realignments to the Defense Base Closure and Realignment Commission on February 28, 1995. The Commission held 13 investigation hearings, conducted 206 fact-finding visits to 167 military installations and activities, held 16 regional hearings nationwide, listened to hundreds of Members of Congress, and received hundreds of thousands of letters from concerned citizens from across the country. By June 22, 1995, the Defense Base Closure and Realignment Commission had completed its review and analysis of the Secretary's recommendations, and began its final, two days of deliberations, all in public.

Information on the Commission's base closure and realignment decision for the Fleet and Industrial Supply Center, Oakland is presented below. The paragraph entitled "Secretary of Defense Recommendations" was taken verbatim from the *Department of Defense Base Closure and Realignment Report* dated March 1995. The paragraph entitled "Community Concerns" provide a brief summary of arguments presented to the Commission by local communities; they are not all-inclusive.

Fleet and Industrial Supply Center, Oakland, California

Category:	Fleet and Industrial Supply Centers
Mission:	Supply Support
One-time Cost:	$23.0 million
Savings:	1996-2001: $29.7 million
Annual:	$12.6 million
Return on Investment:	1999 (Immediate)
FINAL ACTION:	Close

Secretary of Defense Recommendation
None. The Commission added this military installation to the list of bases to be considered by the Commission for closure or realignment as a proposed change to the list of recommendations submitted by the Secretary of Defense.

Community Concerns
FISC is located in three jurisdictions: Oakland, Alameda, and Richmond, California. Alameda and Richmond would like to have the land in their cities closed under base closure rules, which would expedite the land transfer. Initially, Oakland was concerned that any base closure action would prevent implementation of special legislation authorizing the Secretary of the Navy to sign long-term leases with the City of Oakland, the Port of Oakland, and the City of Alameda for $1. The Port of Oakland and the Navy recently signed leases for two parcels of FISC land. The Port was originally concerned that closure of FISC as a BRAC action would delay their large port development plan. The Port recognized that closure would allow the Port to acquire the land and would not interfere or prevent ongoing lease negotiations.

Commission Findings
The Secretary of the Navy removed FISC Oakland from the list of recommendations presented to him because of excessive job losses in California. The Commission added FISC Oakland for consideration. The Commission found employment levels and workload at FISC decreasing as the bases it supported were closed. FISC's primary function would be to operate office space for Government tenants.

The Commission agreed with the Richmond and Alameda communities that the closure of FISC land in their communities would facilitate transfer to the land. To clarify that these were distinct parcels of land the Commission addressed these parcels in a separate closure motion. The Commission and the Oakland community ultimately agreed that the closure of the main FISC compound in Oakland would not interfere with their ongoing lease negotiations or previously signed leases, and would facilitate transfer of the property. The proposed closure actions received the endorsement of the Port of Oakland and the mayors of Oakland, Alameda, and Richmond. The Commission also found that additional savings would result if the two major tenants at FISC, Military Sealift Command and Defense Finance and Accounting Service, move to other Government-owned space.

Commission Recommendation
The Commission finds the Secretary of Defense deviated substantially from final criteria 5 and 6. Therefore, the Commission recommends the following: realign the Fleet and Industrial Supply Center, Oakland. Close Point Molate Naval Refueling Station, Richmond, California. Close Navy Supply Annex, Alameda, California. The Commission finds this recommendation is consistent with the force-structure plan and final criteria.

Commission Recommendation II
The Commission finds the Secretary of Defense deviated substantially from final criteria 5 and 6. Therefore, the Commission recommends the following: close the Fleet and Industrial Supply Center, Oakland. Relocate Defense Finance and Accounting Service and Military Sealift Command to Government-owned space. The Commission finds this recommendation is consistent with the force-structure plan and final criteria.

B.2. P.L. 102-484 SEC. 2834 (OCTOBER 23, 1992)

SEC. 2834. LEASES OF PROPERTY, NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA.

(a) LEASE AUTHORIZED WITH UNION PACIFIC RAILROAD COMPANY—

(1) The Secretary of the Navy may lease to the Union Pacific Railroad Company (in this subsection referred to as the "Company") not more than 15 acres of real property, together with improvements thereon, located at the Naval Supply Center, Oakland, California.

(2) The lease authorized in paragraph (1) shall—
  (A) be for an initial period of not more than 25 years;
  (B) contain an option for the Company to extend the lease for an additional period of not more than 25 years; and
  (C) contain the restriction that the Company use the leased property only for freight transportation purposes.

(3) (A) As consideration for the lease of the real property under paragraph (1), the Company—
    (i) shall pay to the Navy the long-term fair market rental value of the leased property; and
    (ii) may be required to furnish additional consideration as provided in subparagraph (B).
  (B) The Secretary may require that the lease include a provision for the Company—
    (i) to pay the Navy an amount (as determined by the Secretary) for the costs of replacing at the Naval Supply Center, Oakland, California, the facilities vacated by the Navy on the leased property or to construct the replacement facilities for the Navy; and
    (ii) to pay the Navy an amount (as so determined) for the costs of relocating Navy operations from the vacated facilities ties to the replacement facilities.

(4) (A) Section 2667(d) of the title 20, United States Code, shall apply to amounts paid under paragraph (3)(A)(i).
  (B) The Secretary may use amounts received under paragraph (3)(B) to pay for constructing new facilities, or making modifications to existing facilities, that are necessary to replace facilities vacated by the Navy on the leased property and for relocating operations of the Navy from the vacated facilities to the replacement facilities.

(5) The Secretary may authorize the Company to demolish existing facilities on the leased property and, consistent with the restriction required by paragraph (2)(C), construct new facilities on the property for the use of the Company.
  (b) LEASE AUTHORIZED WITH CITY OR PORT OF OAKLAND—
    (1) The Secretary of the Navy may lease to the City of Oakland, California, or the Port of Oakland, California (in this subsection referred to as the "City" and the "Port", respectively), not more than 195 acres of real property, together with improvements thereon, located at the Naval Supply Center, Oakland, California.
    (2) The lease authorized under paragraph (1) shall—
      (A) be for a term of not more than 50 years; and
      (B) shall contain the restriction that the City or the Port (as the case may be) use the leased property in a manner consistent with Navy operations conducted at the Naval Supply Center.
    (3) (A) As consideration for the lease of the real property under paragraph (1), the City or the Port (as the case may be)—
        (i) shall pay to the Navy the long-term fair market rental value of the leased property; and
        (ii) may be required to furnish additional consideration as provided in subparagraph (B).
      (B) The Secretary may require that the lease include a provision for the City or the Port (as the case may be)—
        (i) to pay the Navy an amount (as determined by the Secretary) for the costs of replacing at the Naval Supply Center, Oakland, California, the facilities vacated by the Navy on the leased property or to construct the replacement facilities for the Navy; and
        (ii) to pay the Navy an amount (as so determined) for the costs of relocating Navy operations from the vacated facilities to the replacement facilities.

(4) The Secretary may not enter into the lease authorized by paragraph (1) until 21 days after the date on which the Secretary submits to the Committees on Armed Services of the Senate and House of Representatives a report containing an explanation of the terms of the proposed lease and a description of the consideration that the Secretary expects to receive under the lease.

(5) (A) The Secretary may use amounts paid under paragraph (3)(A)(i) to pay for improvement, maintenance, repair, construction, or restoration activities at the Naval Supply Center, Oakland, California.

(B) The Secretary may use amounts received under paragraph (3)(B) to pay for constructing new facilities, or making modifications to existing facilities, that are necessary to replace facilities vacated by the Navy on the leased property and for relocating operations of the Navy from the vacated facilities to the replacement facilities.

(6) The Secretary may authorize the City or the Port (as the case may be) to demolish existing facilities on the leased property and, consistent with the restriction required by paragraph (2)(B), construct new facilities on the property for the use of the City or the Port.

(c) ADDITIONAL TERMS.— The Secretary may require such additional terms and conditions in connection with the leases authorized under this section as the Secretary considers appropriate to protect the interests of the United States.

(d) REPEAL OF SUPERSEDED AUTHORITY.— Section 2338 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1225) is repealed.

B.3. P.L. 103-160 SEC. 2833 (NOVEMBER 30, 1993)

SEC. 2833. MODIFICATION OF LEASE AUTHORITY, NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA

(a) EXPANSION OF LEASE AUTHORITY.— Paragraph (1) of subsection (b) of section 2834 of the Military Construction Authorization Act for Fiscal Year 1993 (division B of Public Law 102-484; 106 Stat. 2614) is amended by striking out "not more than 195 acres of real property" and all that follows through the period and inserting in lieu thereof "those portions of the Naval Supply Center, Oakland, California, that the Secretary determines to be available for lease."

(b) CONSIDERATION.— Paragraph (2) of such subsection is amended—
  (1) by striking out "and" at the end of subparagraph (A);
  (2) by striking out the period at the end of subparagraph (B) and inserting in lieu thereof"; and"; and
  (3) by adding at the end the following new subparagraph: "(C) be for nominal consideration.".

(c) CONFORMING AMENDMENTS.— Such subsection is further amended—
  (1) in paragraph (2)(B), by striking out "shall";
  (2) by striking out paragraphs (3), (4), and (5); and
  (3) by redesigning paragraph (6) as paragraph (3).

B.4. P.L. 103-337 SEC. 2821 (OCTOBER 5, 1994)

SEC. 2821. ADDITIONAL LESSEE OF PROPERTY AT NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA.

Section 3834(b) the Military Construction Authorization Act for Fiscal Year 1993 (division B of Public Law 102-484; 106 Stat. 2614) is amended—

(1) in paragraph (1)—
  (A) by striking out "City" the second place it appears and inserting in lieu thereof "Cities"; and
  (B) by inserting "the City of Alameda, California," after "California," the first place it appears; and
(2) in paragraphs (2) and (3), by striking out "City" each place it appears and inserting in lieu thereof "Cities."

B.5. P.L. 104-106 SEC. 2867 (FEBRUARY 10, 1996)

SEC. 2867. LAND CONVEYANCE ALTERNATIVE TO EXISTING LEASE AUTHORITY, NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA

Section 2834(b) of the Military Construction Authorization Act for Fiscal Year 1993 (division B of Public Law 102-484; 106 Stat. 2614), as amended by section 2833 of the Military Construction Authorization Act for Fiscal Year 1994 (division B of Public Law 103-160; 107 Stat. 1896) and section 2821 of the Military Construction Authorization Act for Fiscal Year 1995 (division B of Public Law 103-337; 108 Stat. 3057), is further amended by adding at the end the following new paragraphs:

"(4) In lieu of entering into a lease under paragraph (1), or in place of an existing lease under that paragraph, the Secretary may convey, without consideration, the property described in that paragraph to the City of Oakland, California, the Port of Oakland, California, the City of Alameda, California, or the City of Richmond, California, under such terms and conditions as the Secretary considers appropriate.

"(5) The exact acreage and legal description of any property conveyed under paragraph (4) shall be determined by a survey satisfactory to the Secretary. The cost of each survey shall be borne by the recipient of the property."

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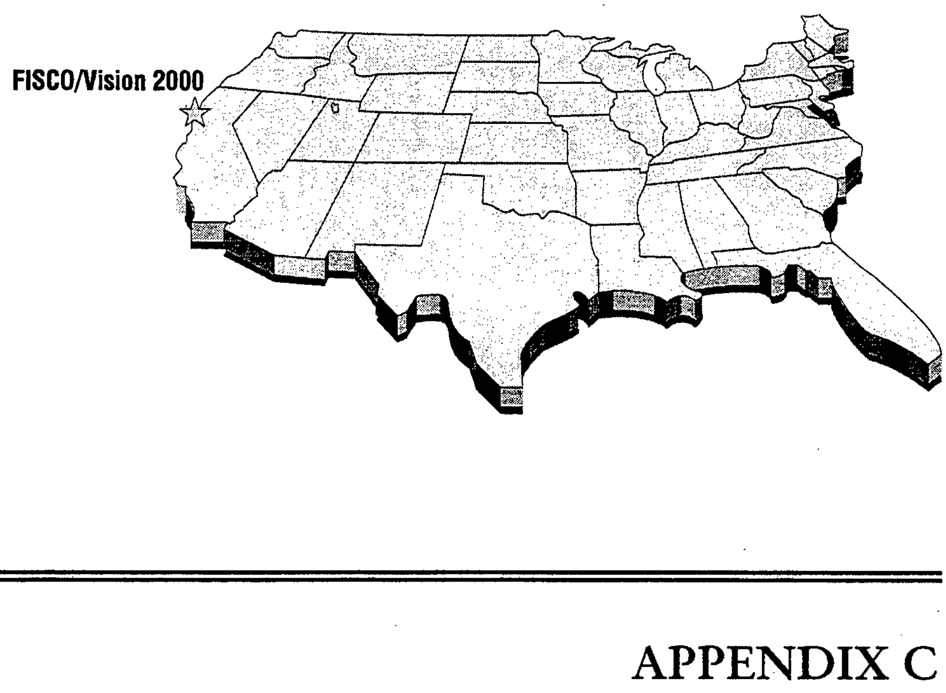


APPENDIX C
DRAFT SECTION 4(f) EVALUATION

Appendix C
Draft Section 4(f) Evaluation

INTRODUCTION

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that "[t]he Secretary of [Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area refuge, or site) only if

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

In general, a section 4(f) "use" occurs with a Department of Transportation-approved project or program when (1) section 4(f) land is permanently incorporated into a transportation facility; (2) when there is a temporary occupancy of section 4(f) land that is adverse in terms of the section 4(f) preservationist purposes as determined by specified criteria (23 CFR 771.135 [p] [7]); and (3) when section 4(f) land is not incorporated into the transportation project, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under section 4(f) are substantially impaired (constructive use).

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f).

This Section 4(f) evaluation will be used in the decision-making process by the Navy, Port of Oakland, and Federal Highway Administration (FHWA) to select the Preferred Alternative for the Port's Vision 2000 Program and to authorize using Intermodal Surface Transportation Efficiency Act (ISTEA) funding for constructing a joint intermodal terminal (JIT). The Navy and the Port have consulted with the public agencies having jurisdiction over the 4(f) resources in the project area during the assessment of impacts and the development of measures to minimize harm.

PROPOSED ACTION

In response to the recognized need to increase capacity and to improve efficiency of integrated intermodal cargo transportation services, the Port of Oakland has developed the Vision 2000 Program. This program is a schedule of phased improvements and development projects to modernize and expand the Port's facilities. The Vision 2000 Program involves reuse and development of the US Navy's Fleet and Industrial Supply Center Oakland (FISCO), formerly known as the Naval Supply Center, located in West Oakland, as well as 290 acres beyond the FISCO property boundaries.

Chapter 1, Purpose and Need, Section 1.3, pages 1-6 and 1-7 in Volume I of this EIS/EIR explains the applicable conditions affecting ownership of the FISCO property. In summary, as a result of this project, a portion of FISCO will be conveyed in fee to the Port through special legislation, allowing the Secretary of the Navy to convey the nonreversionary portion of FISCO to the Port. The remainder of FISCO will be conveyed by a reversionary clause in the deed of trust for FISCO. Pending final closure of FISCO, the Port is leasing portions of FISCO from the Navy. Chapter 2, Section 2.2.5, pages 2-10 through 2-12, describes the various geographic components that comprise the Port's Vision 2000 Program.

The Vision 2000 Program consists of three common elements: JIT, marine terminals, and public waterfront access and marine habitat enhancement (see Chapter 2, Section 2.2.3, Common Elements of Port Reuse Alternatives, page 2-6 in Volume I). The environmental consequences associated with full buildout of all three Vision 2000 elements by 2010 are evaluated in Chapter 5 of Volume I.

The following Vision 2000 Program alternatives are evaluated in Volume I:

- Maximum Marine/Maximum Rail;
- Minimum Marine/Minimum Rail;

- Maximum Marine/Minimum Rail; and
- Reduced Harbor Fill.

These four alternatives represent variations on the design and configuration of the Vision 2000 Program components, including the JIT. Table 2-3 in Volume I of this EIS/EIR provides an overview of facilities and other operations features of the four JIT alternatives. These four alternatives were configured to represent a range of potential impacts to different resources. For example, rail track storage on the Oakland Army Base property is included for only one of the four alternatives. Similarly, although both the Maximum Marine/Maximum Rail and Reduced Harbor Fill Alternatives would serve both Southern Pacific/Union Pacific and Burlington Northern-Santa Fe railroads, the Reduced Harbor Fill Alternative is configured in a manner that avoids impacts to one of the historic districts in the project area.

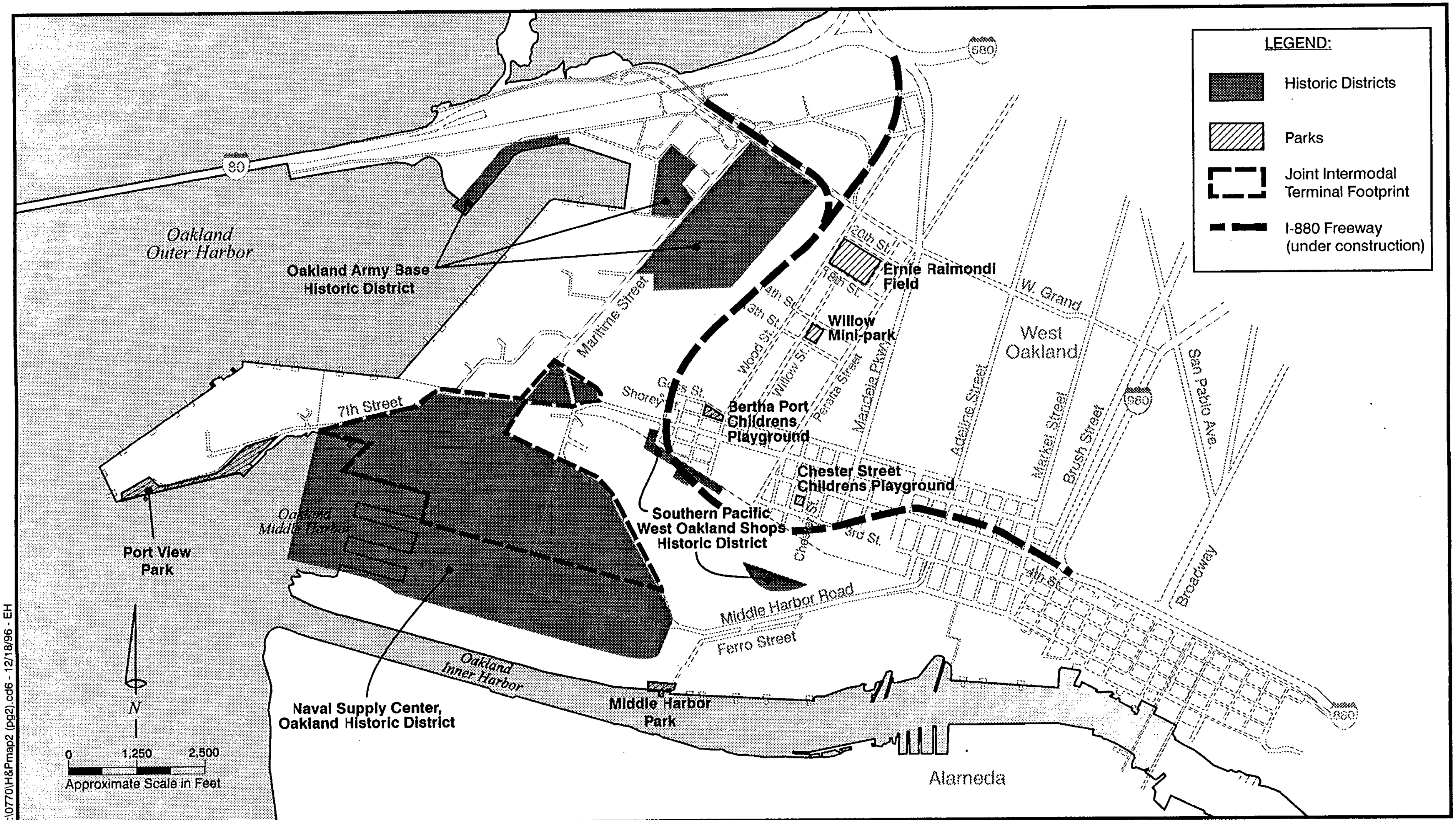
A detailed discussion of the reasons why the four Vision 2000 Program alternatives were selected is described in Chapter 2, Alternatives, Including the Proposed Action, Section 2.2.2, pages 2-3 through 2-5 in Volume I of this EIS/EIR. The maximum JIT footprints proposed under these four alternatives are presented on Figures C-1, C-2, C-3, and C-4.

The purpose of the JIT is to expand and improve the existing intermodal operations of the Southern Pacific and Union Pacific Railroads in Oakland, California, and to provide access for the international segment of the Burlington Northern-Santa Fe Railroad business currently handled in Richmond, California, approximately 17.7 km (11 miles) north of the Port area. All three Vision 2000 elements are separate and independent of one another. Therefore, because the JIT would provide efficient rail access to existing Port terminals in the Oakland Inner and Outer Harbors, its successful implementation does not depend on construction and operation of the new marine terminals proposed as part of the Vision 2000 Program.

The Metropolitan Transportation Commission (MTC) has authorized ISTEA funding for the JIT. To prepare the property after acquisition, a large number of structures must be demolished, utilities relocated and constructed, grading undertaken, and several roadways constructed. The MTC has authorized funds placed in the State Transportation Improvement Program (TIP) through ISTEA for seven million dollars for JIT construction.

SECTION 4(F) PROPERTY

There are three historic districts in the project area that are eligible for the National Register of Historic Places (NRHP): the Naval Supply Center, Oakland (NSCO), Oakland Army Base, and Southern Pacific West Oakland Shops Historic Districts (see Figures C-1, C-2, C-3, and C-4). In 1990, the State Historic



Source: Port of Oakland 1996

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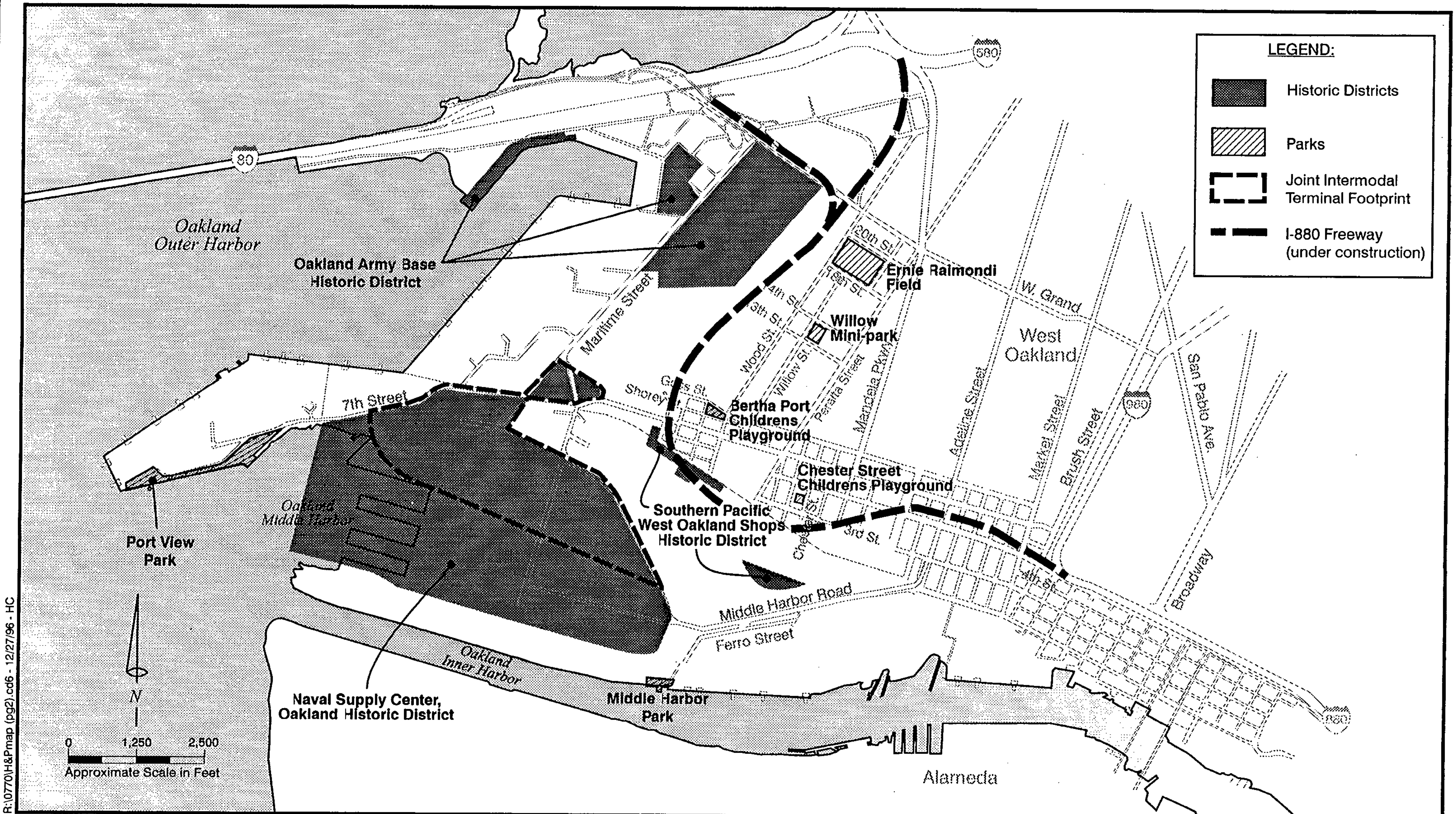
Section 4(f) Parklands and Historic Resources
Maximum Marine/Minimum Rail Alternative

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Port of Oakland

Figure C-1



Section 4(f) Parklands and Historic Resources
Minimum Marine/Minimum Rail Alternative

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Figure C-2

Port of Oakland

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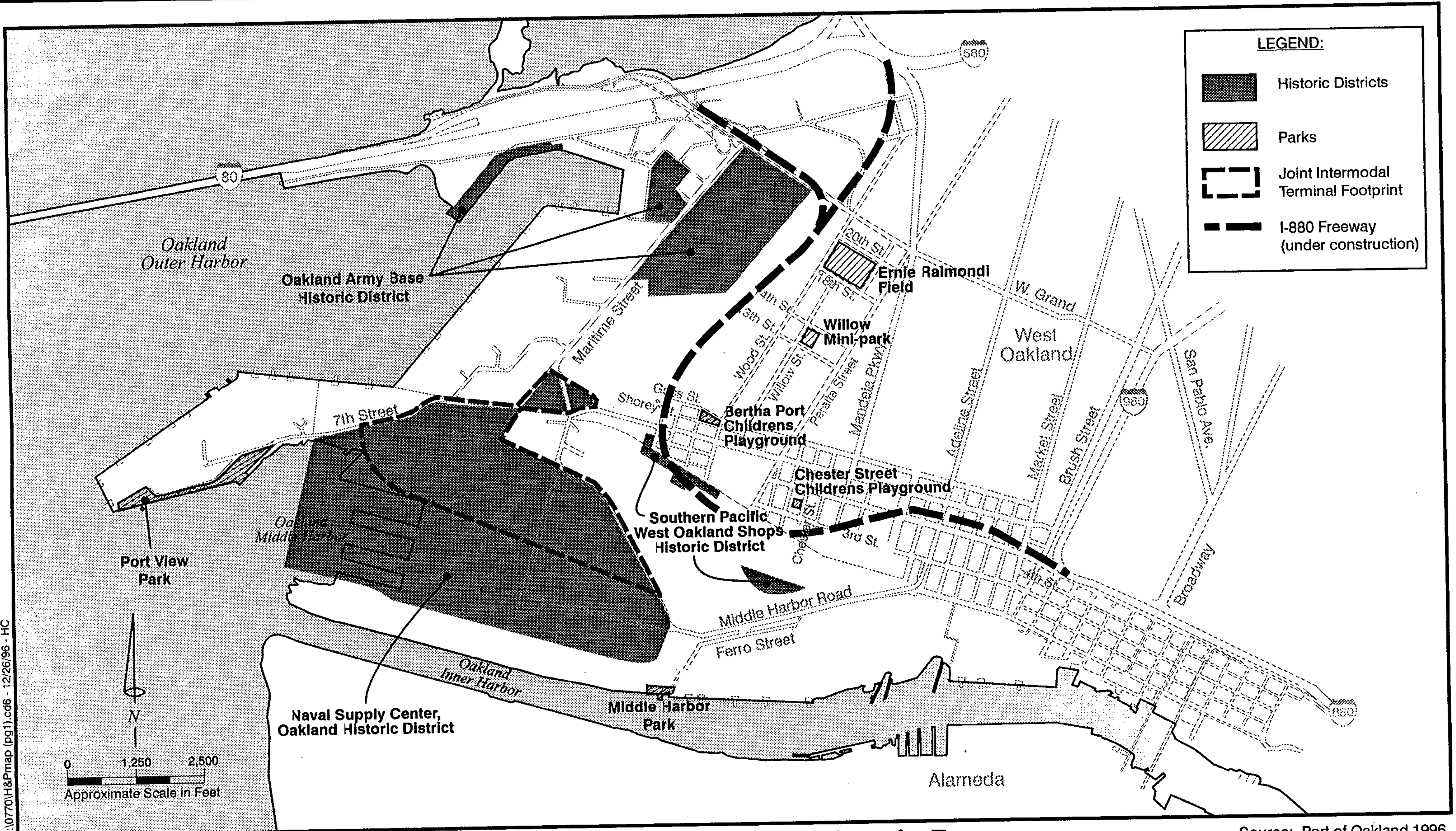


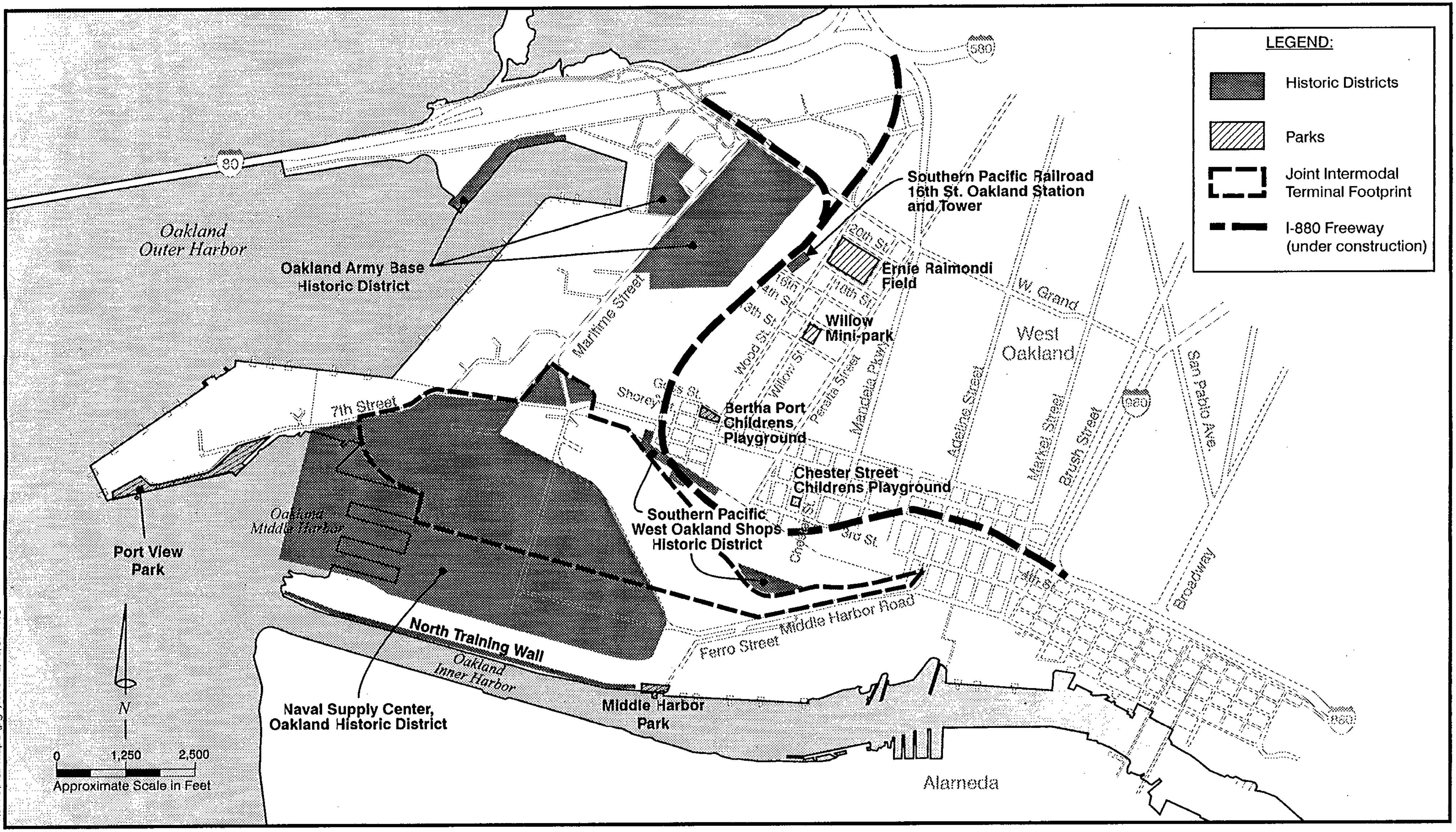
Source: Port of Oakland 1996

Section 4(f)Parklands and Historic Resources Maximum Marine/Minimum Rail Alternative

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Port of Oakland

Figure C-3



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Source: Port of Oakland 1996

Section 4(f) Parklands and Historic Resources Reduced Harbor Fill Alternative

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Figure C-4

Port of Oakland

Preservation Officer (SHPO) concurred that these three districts are eligible for the NRHP (see Section 3.4 in Volume 1). However, documentation has been undertaken to demonstrate that the Southern Pacific West Oakland Shops Historic District is no longer eligible for inclusion in the NRHP.

There are no known prehistoric or historic archaeological sites identified on FISCO property or in the project area. Because of past dredging and filling, the probability of encountering any subsurface archaeological resources on FISCO or in the project vicinity is very low.

Naval Supply Center, Oakland Historic District
The NSCO is owned by the US Navy and is approximately 214 ha (528 acres). The NSCO is located in West Oakland, approximately 3.2 km (two miles) west of the Oakland central business district, on the eastern shoreline of San Francisco Bay. The boundaries of this historic district are shown on Figures C-1, C-2, C-3, and C-4.

The Navy constructed NSCO in 1940 to provide logistical support for military activities in the Pacific region during World War II. Land use at FISCO has been characterized by extensive military support facilities, including warehouses, office buildings, some military housing, and the Middle Harbor berths and wharf area. Approximately 89.1 ha (220 acres) of the FISCO property are leased to the Port of Oakland for use as general transportation support activities, including warehousing, container depot activities, loading, and container cargo stations.

In 1990, the NSCO Historic District included 84 buildings and structures that contributed to the significance of the historic district and 42 noncontributing buildings and structures within the mapped boundaries. The list of contributing buildings and structures that existed at FISCO in 1990 are identified in Table 3-6, Section 3.4, page 3-32 in Volume I of this EIS/EIR.

Access to the NSCO Historic District is via two gates. Gate 1 is at the northern end of the historic district. From Gate 1, a bridge structure carries traffic across 7th Street to an at-grade intersection with 3rd Street. Gate 2 is at the eastern end of the historic district off of Middle Harbor Road and provides access to a perimeter road that runs roughly parallel to Middle Harbor Road for approximately one mile.

In 1996, approximately 2,600 Navy personnel were employed at the NSCO Historic District. An additional 400 employees that represent tenants of the Port work at the Harbor Transportation Center, located in the eastern half of the site on property leased by the Port.

Oakland Army Base Historic District
The Oakland Army Base Historic District is owned by the US Army. The northwest and northeast sections of this historic district are approximately 6.3 ha (15.5) and 15.9 ha (39.5 acres), respectively. The northwest section is comprised

of two discontinuous segments; the first segment (4.05 ha [10 acres]) is at the northern edge of the Oakland Outer Harbor, and the second segment is west of Maritime Street and south of Alaska Street. The northeast section of this historic district is between Maritime Street and the Southern Pacific Desert Yard south of West Grand Avenue. The boundaries for the Oakland Army Base Historic District are shown on Figures C-1, C-2, C-3, and C-4.

Twenty-four buildings and structures at the Oakland Army Base have been determined eligible for listing in the NRHP; these are identified by building number in Table 3-7, Section 3.4, page 3-35 in Volume I of this EIS/EIR. The contributing buildings in the first segment of the northwest section are made up of three wharves and a shed, while the contributing buildings in the second segment are primarily storehouses and administrative buildings. Contributing buildings in the northeast section are primarily large warehouses and a switch engine building at the Knight Yard.

The main access to the Oakland Army Base Historic District is Maritime Street. Access to the wharves in the northwest section of the base is via Burma Road off Maritime Street. There are 19 active Department of Defense or federal agencies as tenants and five nonmilitary agency tenants on the Oakland Army Base as of July 5, 1996.

Southern Pacific West Oakland Shops Historic District

The Southern Pacific West Oakland Shops Historic District is owned by the Southern Pacific Railroad. This historic district includes two separate segments within the larger Southern Pacific West Oakland Railyard. The northern segment, approximately one ha (2.5 acres), is at the northern extreme of the Southern Pacific Railyard, from west of Bay Street to east of Wood Street. The southern segment, approximately 1.4 ha (3.5 acres), is separated from the northern segment by a bank of railroad tracks.

This historic district includes 14 buildings, 12 of which were identified as contributors, eight in the northern segment near Wood Street and four in the southern segment. The eligible buildings within this district are listed in Table 3-8, Section 3.4, page 3-37 in Volume I of this EIS/EIR. These buildings include a telephone exchange, electrical shop, signal tower, lumber shed, freight depot, and mill.

Caltrans and Southern Pacific Railroad as part of the Cypress Freeway reconstruction in the early 1990s demolished four buildings within the northern segment of this historic district. A 1991 MOA between the Federal Highway Administration, Department of the Army, SHPO, and the Advisory Council on Historic Preservation (ACHP) called for recordation of these four buildings to the standards of the Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) prior to demolition, as well as attempts to market the buildings for relocation off-site. The marketing attempts were

unsuccessful and the buildings were recorded and demolished. The four demolished buildings were located in the northern segment near Wood Street; this demolition removed half of the contributing buildings in that area.

Subsequent to these demolition activities, there was no determination if whether the integrity of the original historic district remained. Documentation has been undertaken to demonstrate that the qualities and characteristics that originally rendered this property a historic district were destroyed when the "core" district (i.e., buildings in the northern segment) were demolished; therefore, the remaining ancillary buildings in the southern segment of this district would no longer be eligible for inclusion in the NRHP. This documentation will be submitted to the SHPO for concurrence and the results recorded in the Final Section 4(f) evaluation.

IMPACTS ON SECTION 4(F) PROPERTIES

All four project alternatives would involve further demolition of the NSCO Historic District. The Maximum Marine/Minimum Rail Alternative would result in demolition in a portion of the Oakland Army Base Historic District and the Maximum Marine/Maximum Rail Alternative would result in demolition in a portion of the Southern Pacific West Oakland Shops Historic District.

NSCO Historic District

All four project alternatives would adversely effect the NRHP-eligible NSCO Historic District because an undertaking is considered to have an adverse impact when the effect on a historic property may diminish the integrity of that resource. The transfer, lease, or sale of a property from federal ownership without adequate restrictions or deed covenants to ensure preservation is an adverse effect and would be a significant but mitigable impact. This impact would apply to all FISCO contributing buildings and structures within the NRHP-eligible NSCO Historic District.

Under any of the four project alternatives, the Port would demolish all or nearly all contributing buildings within the NSCO Historic District. This demolition will complete a program that began in 1994, through which much of the NSCO Historic District would be demolished to make way for expansion of the Port.

In 1994, the Navy, the Port, the SHPO, and the ACHP executed a Memorandum of Agreement (MOA) pertaining to leasing up to approximately 89 ha (220 acres) of the 214-ha (528-acre) FISCO to the Port. The MOA accepted demolition of any buildings within 77 ha (190 acres) of the 89-ha (220-acre) existing lease area (see Figure 3-8, page 3-33 in Volume I).

The MOA called for mitigation measures, including recording selected buildings to HABS standards, preparing a Historic and Archeological Resources Protection (HARP) plan for the remainder of the base, and other mitigation measures. Some of these measures were implemented. Other measures, however, were

interrupted by the decision in 1995 to close the base. The demolition accepted under the 1994 MOA will effectively destroy much of the NSCO Historic District by demolishing 39 of the 84 contributing buildings.

Under all four project alternatives, JIT construction would demolish most if not all of the remaining contributing buildings and would result in an adverse effect and a substantial adverse change to this historic property. However, as part of a proposed Memorandum of Agreement (MOA) for protecting historic resources at the NSCO Historic District, three existing officers quarters will be available for moving off-site. These quarters could be relocated adjacent to and west of the JIT in a proposed public access area around the Oakland Middle Harbor (see Figures 2-4, 2-8, and 2-10 in Chapter 2, Volume I).

Access

If the officers quarters are relocated to the Middle Harbor public access area, permanent access would be provided via 7th Street. Access to these resources could be affected during JIT construction by increased truck traffic along 7th Street under all four reuse alternatives. However, measures outlined below under Measures to Minimize Harm will be taken to keep this road open to public through-traffic during construction and therefore not reduce or interfere with public use of these resources.

Noise

Limited data are available concerning existing noise levels in the immediate project area. Community noise equivalent levels (CNEL) on FISCO were estimated to be above 75 decibels (dB) in the mid-1980s (US Navy 1990). If the FISCO officers quarters are relocated to the Middle Harbor public access area, they would remain on FISCO property and be subject to similar high ambient noise levels from existing truck and train traffic. Therefore, future JIT-induced noise is not anticipated to substantially impair the use or enjoyment of these officers quarters. Construction noise would be temporary in duration and would similarly not reduce public enjoyment of these 4(f) resources.

Air Quality

The air quality monitoring stations closest to the project site are located on Alice Street in Oakland near Jack London Square and at the county hospital in San Leandro. Table 3-23 in Volume I of the EIS/EIR summarizes recent monitoring data for ozone, carbon monoxide (CO), and PM_{10}.

Between 1990 and 1995, peak 1-hour carbon monoxide emissions recorded at the Alice Street monitoring station ranged from 5.0 to 9.0 parts per million (ppm) and peak 8-hour values ranged from 3.9 to 6.8 ppm. Carbon monoxide dispersion modeling results show that peak 1-hour emissions attributable to the entire Vision 2000 Program (of which the JIT represents only a fraction of total future traffic) would range from 5.3 ppm (under the Maximum Marine/Maximum Rail Alternative) to 6.9 ppm (under the Reduced Harbor Fill Alternative) (see Table 5-

11, Section 5.1.10.3, page 5-65 in Volume I). Projected peak 8-hour concentrations would range from 4.1 (under the Minimum Marine/Minimum Rail Alternative) to 5.7 (under the Maximum Marine/Minimum Rail Alternative). Therefore, future carbon monoxide emissions would fall within the range of what has been historically recorded in the project area and project emissions would not substantially impair the use or enjoyment of the FISCO officers quarters, should they be relocated.

Projected future ozone precursor emissions in the project area without the project would be high compared to the Bay Area Air Quality Management District's (BAAQMD) regulatory threshold of 15 tons per year (tpy): 231.4 tpy of reactive organic compounds (ROG), 2,337.6 tpy of nitrogen oxide (NOx), 378.6 tpy of sulfur oxide (SOx), and 626.9 tpy of suspended particulate matter (PM_{10}). JIT implementation under all four reuse alternatives would result in increased ozone precursor emissions that would further degrade these conditions (see Tables 5-9 and 5-10, Section 5.1.10.2, pages 5-61 and 5-62 in Volume I). However, these emissions would not substantially impair use or enjoyment of the relocated officers quarters because they would be located in an area already affected by degraded air quality.

Visual

Relocating the officers quarters to the Middle Harbor public access area would have a beneficial visual effect. Visitors to the officers quarters would have more open and expansive direct viewing opportunities west towards San Francisco and the Bay Bridge because these quarters would no longer be surrounded by low-rise military warehouses.

Wildlife, Vegetation, and Water Quality

The NSCO Historic District is located in a disturbed, developed area that supports limited wildlife, vegetation, and water resources. These resources are not important factors in the NSCO Historic District.

Oakland Army Base Historic District

The Maximum Marine/Minimum Rail Alternative would result in a direct use and adverse effect to the Oakland Army Base Historic District in two respects. First, it would expand the proposed rail terminal into the Oakland Army Base Knight Yard, a contributing element of the district. Second, it would demolish or modify a number of on-site buildings. Demolition would occur in the northeast section of the historic district. Plans do not allow for precise identification of the number of contributing buildings that could be demolished, but it appears that up to seven large warehouse buildings could be demolished under this scenario. Other non-historic buildings may be demolished as well. Therefore, the Maximum Marine/Minimum Rail Alternative would result in an adverse effect and a substantial adverse change to this historic property. The other three JIT alternatives would not have a direct use of the Oakland Army Base.

Access

Access to the Oakland Army Base Historic District would not be substantially affected by JIT operations. According to the Vision 2000 traffic analysis, level of service at intersections in the vicinity of the Oakland Army Base (Maritime/Burma, Maritime/West Grand, and Maritime/14th) would not be adversely affected as a result of the project under any of the four reuse alternatives (of which the JIT represents only a fraction of total development). Therefore, access to this historic district would not be substantially restricted (see Tables 5-7 and 5-8 on pages 5-55 and 5-56, Tables 5-13 and 5-14 on pages 5-92 and 5-93, Tables 5-15 and 5-16 on pages 5-114 and 5-115, and Tables 5-17 and 5-18 on pages 5-134 and 5-135 in Volume I). Measures will be implemented to control traffic during JIT construction (see Measures to Minimize Harm).

Noise

The Oakland Army Base Historic District is not a noise-sensitive area and is subject to high ambient noise levels from existing rail operations in the Oakland Army Base Knight Yard and adjacent Southern Pacific Desert Yard and nearby truck traffic. Therefore, future JIT-induced noise under any of the four alternatives is not anticipated to substantially impair the use or enjoyment of this district. Construction noise would be temporary in duration and would similarly not adversely effect public enjoyment of this 4(f) resource.

Air Quality

As described above, future carbon monoxide emissions would fall within the range of what has been historically recorded in the project area and would not substantially impair the use or enjoyment of the Oakland Army Base Historic District. In addition, projected increases in ozone precursor emissions under all four reuse alternatives would not restrict use or enjoyment of this district because it is located in an area already characterized by degraded air quality.

All four project alternatives would require demolishing existing FISCO structures; this activity would be a temporary source of fugitive dust and construction vehicle emissions. However, when properly controlled through best management practices, dust emissions would not adversely effect the use or enjoyment of the Oakland Army Base Historic District because it is located more than one-half mile from FISCO, where major demolition activities would occur.

Visual

Visual resources were qualitatively evaluated by assessing the nature and extent of change in existing landscape character. Demolishing buildings and multi-story warehouses in the NSCO Historic District under all four project alternatives would have a long-term beneficial visual effect to users at the Oakland Army Base Historic District. Demolition would create more expansive viewing opportunities to the west towards the Oakland Middle Harbor. Short-term

building demolition activities may result in temporary visual impacts; however, given the industrial nature of the existing FISCO site and surrounding project area, any visual intrusion would not interfere substantially with use of nearby 4(f) resources.

Under the Maximum Marine/Minimum Rail Alternative, proposed railcar storage on the Oakland Army Base Knight Yard would not have a noticeable or intrusive visual effect because the Knight Yard and adjacent Southern Pacific Desert Yard provide similar uses.

Wildlife, Vegetation, and Water Quality

The Oakland Army Base Historic District is located in a disturbed, developed area that support limited wildlife, vegetation, and water resources. These resources are not important factors at this historic district.

Southern Pacific West Oakland Shops Historic District

The Maximum Marine/Maximum Rail Alternative would result in a direct use and adverse effect to four buildings in the Southern Pacific West Oakland Shops Historic District. Demolition of the four buildings would occur in the southern subdistrict of this historic district. Reassessing the eligibility of this historic district for listing in the National Register is ongoing. Documentation to support the finding that this district is no longer eligible for inclusion in the NRHP will be submitted to the SHPO for concurrence and the results recorded in the Final Section 4(f) evaluation. The other three JIT alternatives would not have a direct use of the Southern Pacific West Oakland Shops Historic District.

Access

The Southern Pacific West Oakland Shops Historic District is currently not accessible to the public. Similar to what is described for the Oakland Army Base, private access to this historic district would not be substantially restricted during JIT operations. During JIT construction, access could be temporarily affected by increased truck traffic along Middle Harbor Road. However, measures outlined under Measures to Minimize Harm would be undertaken to preserve access to this 4(f) resource during construction.

Noise

The Southern Pacific West Oakland Shops Historic District is not a noise-sensitive area and is subject to high noise levels from existing rail operations in the Southern Pacific Rail Yard. Therefore, future JIT-induced noise is not anticipated to substantially impair the use or enjoyment of this district.

Air Quality

As described above, future carbon monoxide emissions during JIT operations would fall within the range of what has been historically recorded in the project area and would not substantially impair the use or enjoyment of this district. Furthermore, ozone precursor emissions under all four JIT alternatives would not

adversely effect this district because it is located in an area already characterized by degraded air quality. Dust emissions during buildings demolition activities would be properly controlled by best management practices.

Visual
The buildings in the southern segment of this historic district are located in an existing heavily industrial area and subsequent JIT development would not impair or degrade the visual integrity of this historic district.

Wildlife, Vegetation, and Water Quality
The Southern Pacific West Oakland Shops Historic District is located in a disturbed, developed area that supports limited wildlife, vegetation, and water resources. These resources are not important factors in this historic district.

ALTERNATIVES

The first step under Section 4(f) is to determine which alternatives are feasible and prudent. An alternative may be rejected as not being feasible and prudent for any of the following reasons:

- Not meeting the project purpose and need;
- Excessive cost of construction;
- Severe operational or safety problems;
- Unacceptable adverse social, economic, or environmental impacts;
- Serious community disruption; or
- An accumulation of a lesser magnitude of the foregoing types of factors.

Harm to a Section 4(f) resource should not be included in those factors which are considered in determining whether an alternative is feasible and prudent. When sufficient analysis has been completed to demonstrate that a particular alternative is not feasible and prudent, no additional analysis or consideration of that alternative is required.

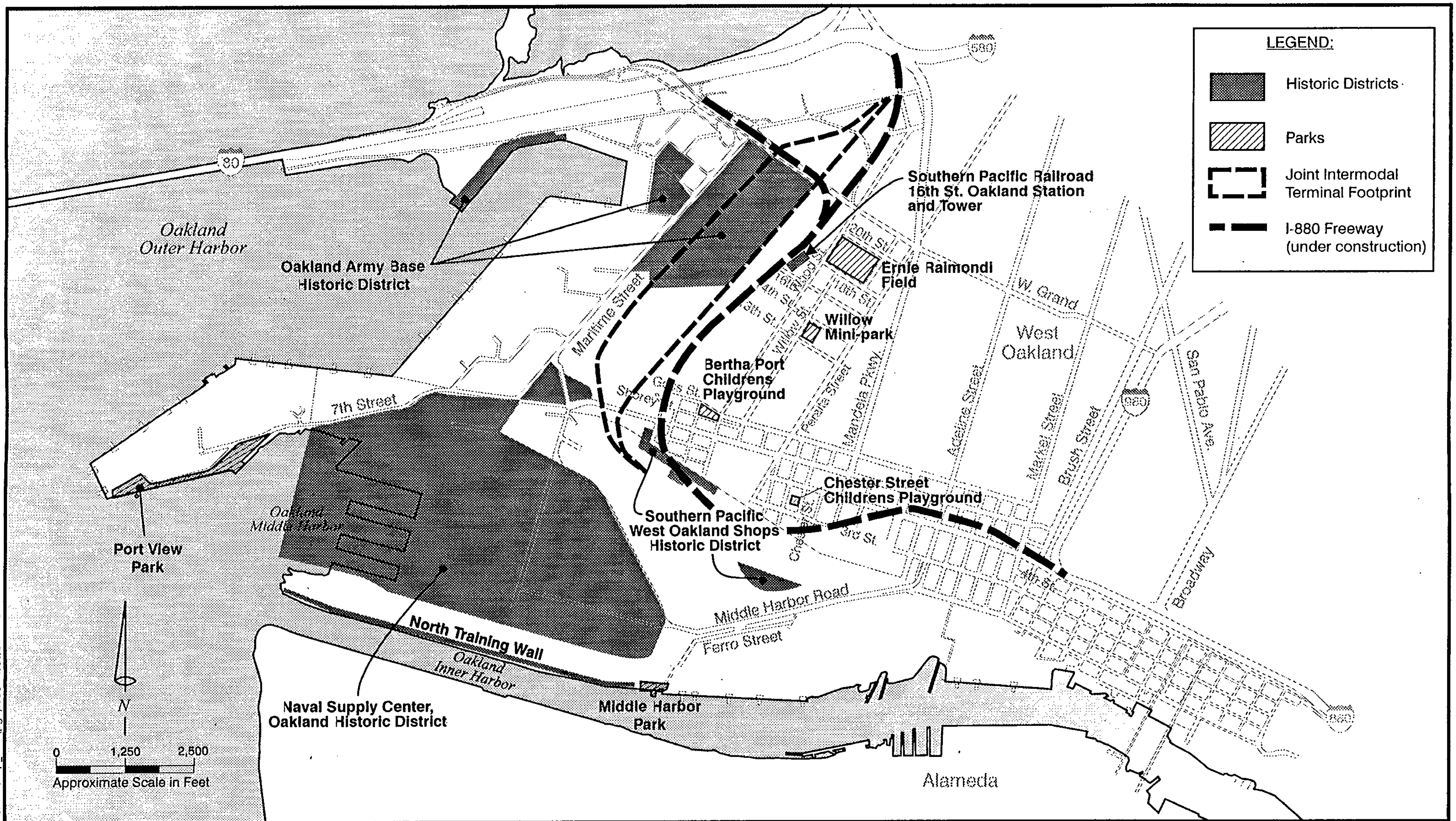
After eliminating the alternatives that are not feasible and prudent, a determination must be made on whether one or more of the remaining alternatives avoids the use of land from Section 4(f) resources. If such avoidance alternatives exist, one of them must be selected. However, if all of the remaining feasible and prudent alternatives use land from Section 4(f) resources, then a least harm analysis must be performed to determine which alternative does the least overall harm to Section 4(f) resources. Where there is little or no difference in the overall harm to the Section 4(f) resources, any of the alternatives may be selected.

FISCO is within the Port jurisdiction and is designated as a port priority use area in the April 1996 San Francisco BCDC and MTC Seaport Plan Update. Port priority use areas include marine terminals and directly related ancillary activities, such as container freight stations, as well as support transportation uses, including trucking and railroad yards. The location of the four Vision 2000 project alternatives evaluated in this EIS/EIR was based largely on the requirements for efficient maritime cargo transportation operations, including providing for enhanced joint intermodal rail terminal capability. This issue is further discussed in Volume I, Chapter 2, pages 2-3 through 2-5 of this EIS/EIR. Developing a JIT consistent with the Seaport Plan Update's port priority use designation restricts the range of alternatives that are feasible for evaluation. The FISCO site provides the most readily available and underused acreage of significant size in the Port area for developing the JIT.

In considering alternatives that do not use the FISCO property, the Port identified the eastern portion of the Oakland Army Base, located north of FISCO, referred to as Footprint Alternative A (Figure C-5). Approximately 200 acres in the eastern half of the Army base, along the western edge of the Southern Pacific's Desert Yard, extending from 7th Street north to the I-80/I-580 distribution structure, initially were considered as a potential location for the JIT. This location would provide good rail access and would leave all of FISCO available for marine terminal development. However, Footprint Alternative A was determined to be infeasible as an alternative site because the base is not within the Port's jurisdiction and the proposed rail terminal footprint would not meet the project's optimum engineering criteria. For example, this site would be too small and too short to accommodate expected train volumes and track lengths. In addition, the Grand Avenue viaduct would bisect the terminal footprint and, therefore, would cause potential overhead clearance problems.

The Port evaluated two additional JIT footprints on FISCO and Southern Pacific Railyard property during preliminary JIT studies. Footprint Alternative B encompasses Southern Pacific's entire existing intermodal facility plus the eastern portion of FISCO (Figure C-6). This footprint would leave most of FISCO available for marine terminal use. This alternative would have good mainline rail access, but it lacked loading tracks of sufficient length. The loading track curvature within the facility would not meet Southern Pacific and Union Pacific requirements and the facility size would be too small to handle optimum JIT volumes.

Footprint Alternative C consists of a strip of tracks running east-west and covering the Southern Pacific's intermodal facility and the center of the FISCO property (Figure C-7). This footprint would allow design of a "single-ended" facility that maximizes track lengths and minimizes track curvature. However, because this layout allows train access from only one end of the facility (as opposed to a double-ended facility that relieves congestion by providing twice as



Section 4(f) Parklands and Historic Resources JIT Footprint A

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Figure C-5

Port of Oakland

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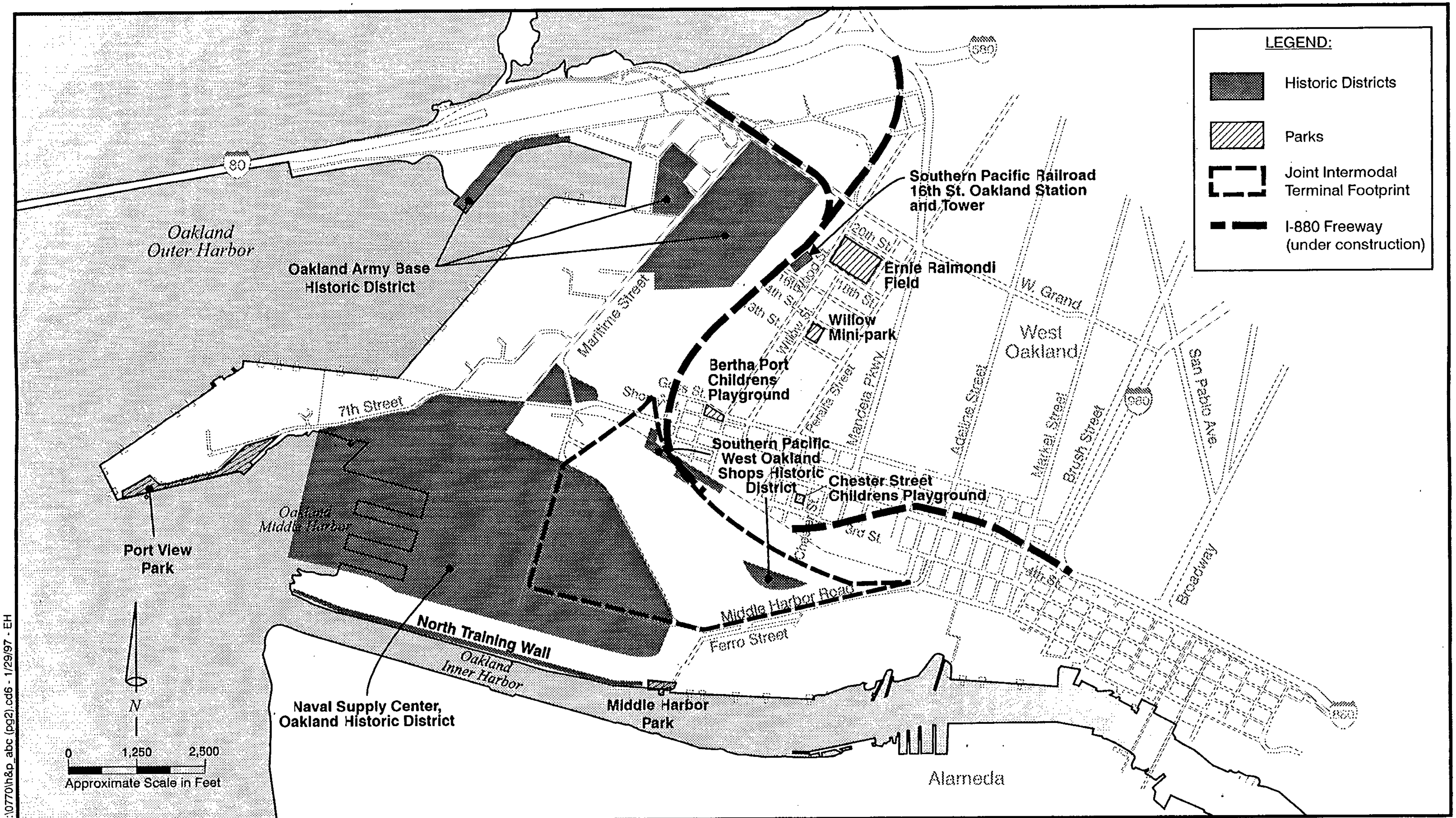

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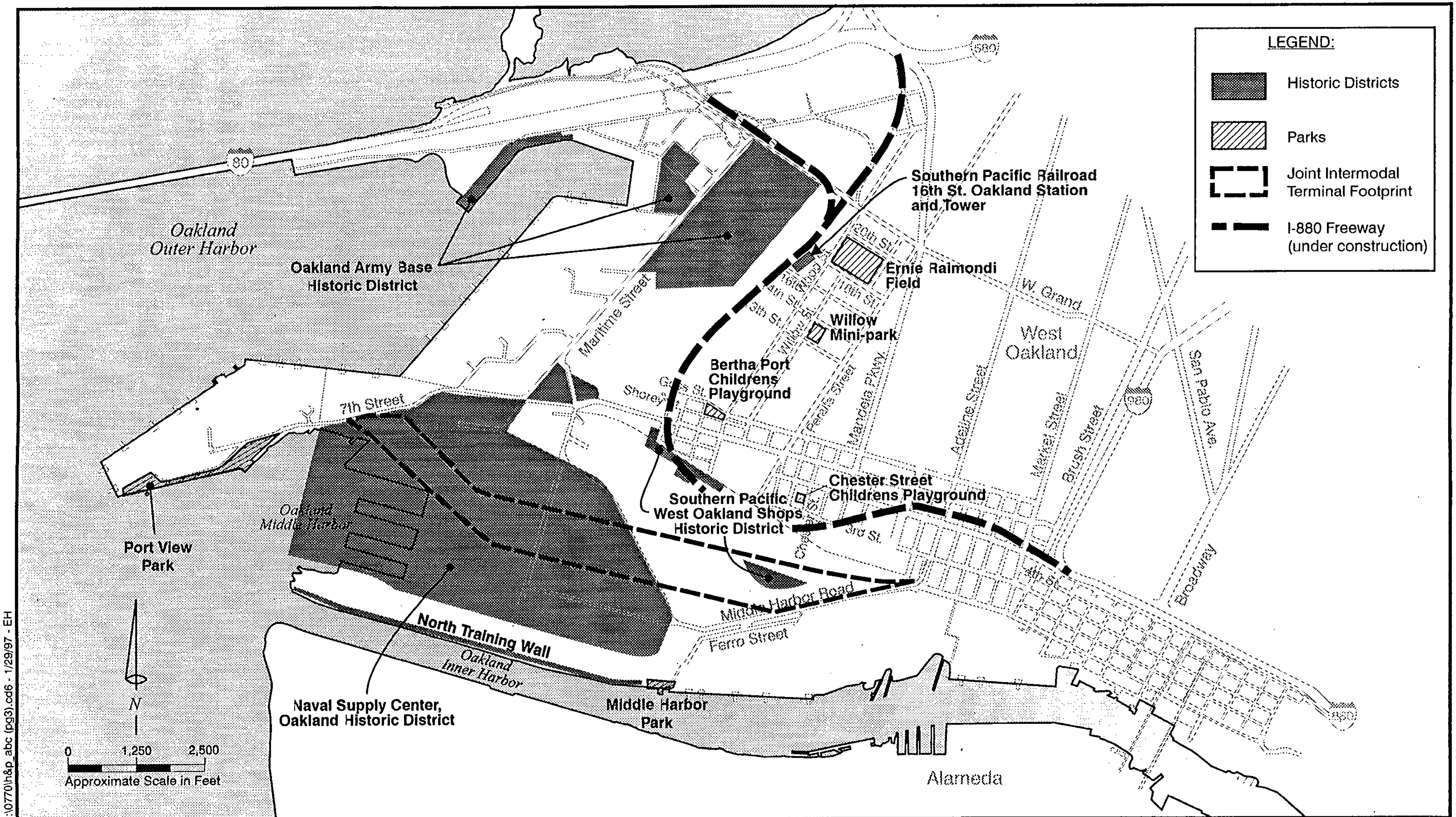
Section 4(f)Parklands and Historic Resources JIT Footprint B

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Port of Oakland

Figure C-6



Source: Port of Oakland 1995

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Section 4(f)Parklands and Historic Resources JIT Footprint C

Fleet & Industrial Supply Center Oakland
and Port of Oakland

Port of Oakland

Figure C-7

many ways to enter, exit, and switch in the yard), this alternative footprint was determined to make rail operations relatively difficult.

Table C-1 illustrates the alternative selection process described above. Footprint Alternatives A, B, and C were determined not to be feasible and prudent because they did not fully meet the project purpose and need and were problematic from an operations stand point. A Section 4(f) evaluation is not necessary for these alternatives and no further analysis is warranted.

Table C-1
Alternatives Considered for Section 4(f) Resources

Alternative	Feasible and Prudent	Uses Section 4(f) Land	Relative Net Harm to Section 4(f) Land After Mitigation
Footprint Alternative A	No	Yes (NA)	NA
Footprint Alternative B	No	Yes (NA)	NA
Footprint Alternative C	No	Yes (NA)	NA
Maximum Marine/ Maximum Rail Alternative	Yes	Yes	Greater
Minimum Marine/ Minimum Rail Alternative	Yes	Yes	Lesser
Maximum Marine/ Minimum Rail Alternative	Yes	Yes	Greater
Reduced Harbor Fill Alternative	Yes	Yes	Lesser

NA: Since this alternative is not feasible and prudent, it should be eliminated from further consideration. Whether Section 4(f) land is used and the relative harm to Section 4(f) protected properties are no longer relevant factors.

The remaining four project alternatives were determined to be feasible and prudent in terms of meeting the project's purpose and need as well as the project's engineering and design criteria. However, each of these four alternatives would result in a "direct use" of the NSCO Historic District. In addition, the Maximum Marine/Minimum Rail Alternative would directly use a portion of the Oakland Army Base Historic District and the Maximum Marine/Maximum Rail Alternative would directly use a portion of the Southern Pacific West Oakland Shops Historic District. Therefore, the Minimum Marine/Minimum Rail and Reduced Harbor Fill Alternatives were determined to have the least overall harm to Section 4(f) historic resources.

None of these remaining project alternatives could avoid each and every 4(f) resource in the project area while meeting the minimum size thresholds needed for cargo handling and transfer needed to reasonably develop a JIT. There are no other appropriate locations in the Bay Area that would be suitable for the proposed JIT. The proposed project location is situated close to the Oakland Inner Harbor Channel, the only deep-draft navigation channel within the Port jurisdiction that can provide marine access to a joint intermodal facility. In addition, the proposed JIT location is ideally situated close to existing rail and highway infrastructure that will expedite the transport of cargo between vessels, trains, and trucks for efficient distribution of goods.

To avoid all section 4(f) resources, the Port would have to develop the JIT on other property within or beyond its jurisdiction. Although there may be other land available that would not directly effect 4(f) resources, use of other property away from the FISCO property could involve additional impacts that would not support the project's purpose and need to increase operating rail efficiency. For example, JIT construction at another location may not be within close proximity to existing rail corridors, therefore increasing the drayage distance to transport cargo that in turn would result in traffic and air quality impacts. In addition, unlike the FISCO site, other project locations may not be specified as a port priority use pursuant to the April 1996 San Francisco Bay Conservation and Development Commission and Metropolitan Transportation Commission Seaport Plan Update.

One nearby site that is designated for port priority use is 220 acres in the northwestern corner of Alameda Island along the southern edge of the Oakland Inner Harbor. However this site, part of Naval Air Station (NAS) Alameda, contains potential 4(f) resources, including a historic wall along the Inner Harbor shoreline and habitat for the endangered California least tern. Furthermore, although marine vessels can access this site via the Inner Harbor, there are no linkages to existing rail corridors. To implement a JIT on this site, rail tracks would have to be constructed either under or across the Oakland Inner Harbor to connect to existing Union Pacific/Southern Pacific rail lines. This type of activity would result in significant traffic and air quality impacts.

If there is an available alternative site adjacent to the bay that avoids all section 4(f) resources, it would likely require the need to construct and/or relocate rail corridors and/or deep-draft marine terminals. This site would not be efficient for Port operations because it would be isolated from existing Port facilities and other necessary infrastructure required to operate a JIT and would result in much greater physical impacts compared to the proposed project. Therefore, project alternatives have been limited to variations of JIT designs that maximize use of FISCO rather than other locations on non-FISCO property.

Consultation pursuant to Section 106 of the National Historic Preservation Act regarding Port demolition in the NSCO Historic District was conducted in 1994.

This consultation process concluded with the signing of an MOA that authorized demolition of buildings and structures located on about one-half of the eligible NSCO Historic District. Since the MOA was executed, thirteen contributing buildings have been demolished and another 29 are scheduled for demolition by September 1998. This work will occur with or without use of the ISTEA funds. To a large degree, the historic district has already been "used." It has suffered a substantial loss of integrity through demolitions already accomplished and will suffer much greater loss of integrity through demolitions approved but not yet accomplished in the 1994 MOA.

Measures to Minimize Harm

The Port, Navy, and Oakland Landmarks Preservation Advisory Board have agreed to mitigation measures that will take into account the larger areas of impacts associated with Navy disposal of all of FISCO. These mitigation measures are summarized in Section 4.1.4.2, Impact 1, pages 4-9 and 4-10 and Section 5.1.4.2, Impact 1, pages 5-15 and 5-16 in Volume I of this EIS/EIR and are included in a proposed amended historic mitigation plan in Appendix G in Volume II of this EIS/EIR.

The Port has also identified potential mitigation to impacts on the Oakland Army Base and Southern Pacific West Oakland Shops historic districts (see Section 5.3.4.2, Impact 2, page 5-105 and Section 5.1.4.2, Impact 2, page 5-16). However, if the SHPO concurs with the determination that the Southern Pacific West Oakland Shops Historic District is no longer eligible for listing on the NRHP, then the discussion of potential impacts to this property will be revised accordingly in the Final EIS/EIR and the Final Section 4(f) evaluation.

To minimize some potential short-term impacts during JIT construction, the following measures are recommended, regardless of the selected preferred JIT alternative:

- Coordinating vehicle routes and construction activities with local authorities to ensure neighborhood safety and to minimize traffic, dust, and noise impacts;

- Adding traffic controls where construction traffic enters major streets; and

- Applying best management practices to suppress dust (see Sections 4.1.10.2 and 5.1.10.2, Mitigation 2, for a specific list of potential dust control measures during construction).

Coordination

The Navy and Port have initiated consultation with the SHPO, ACHP, and Oakland Landmarks Preservation Advisory Board to amend the terms of the 1994 MOA for leasing all of FISCO and the eventual disposal of FISCO to the Port.

As described above, these applicable parties have prepared a proposed amended historic mitigation plan, included in Appendix G in Volume II of this EIS/EIR. Coordination with these agencies will be ongoing until the amended historic mitigation plan is finalized.

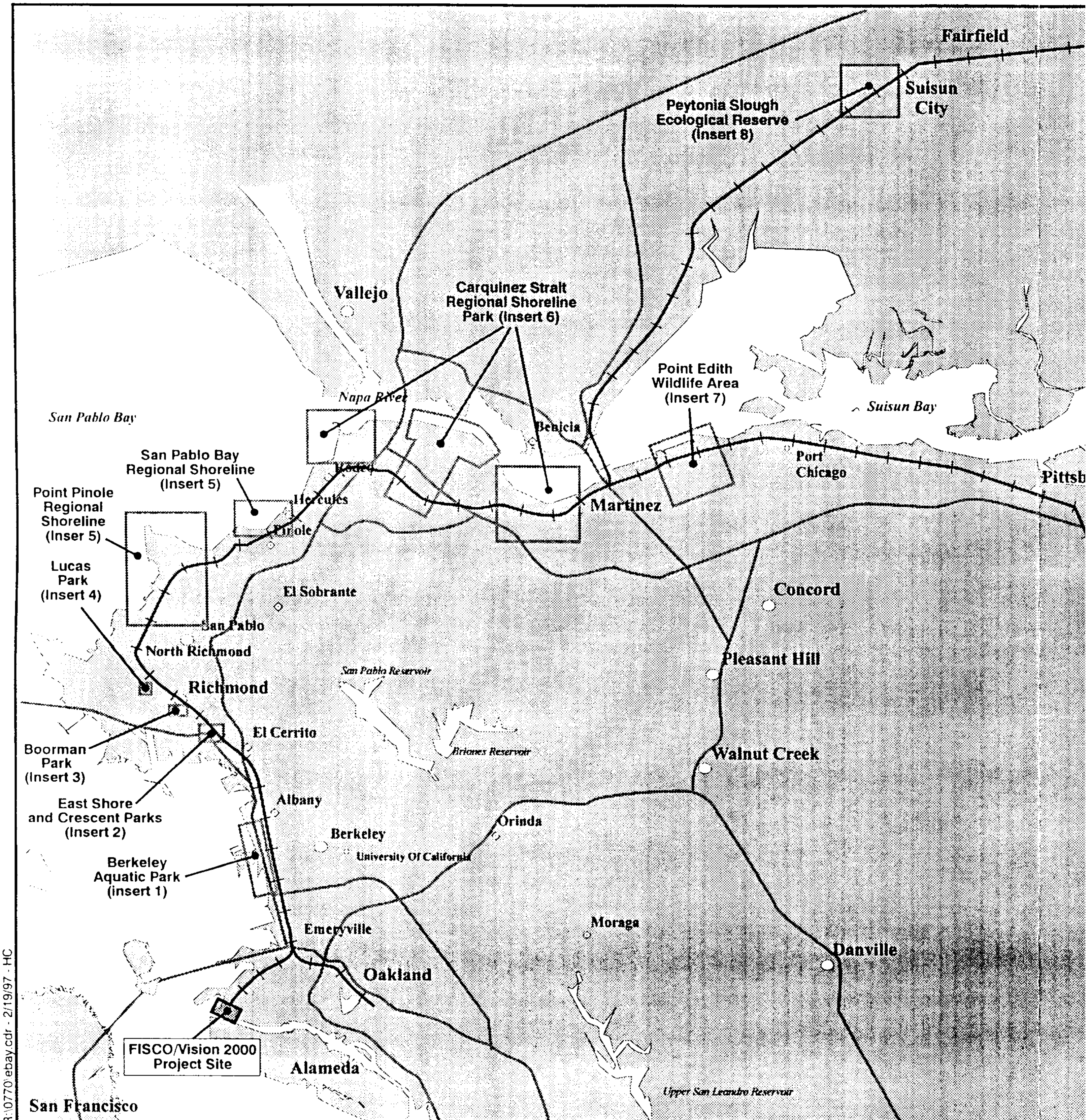
OTHER PARK, RECREATIONAL FACILITIES, WILDLIFE REFUGES, AND HISTORICAL PROPERTIES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F)

The purpose of this discussion is to address section 4(f) requirements relative to other park, recreational facilities, wildlife refuges, and historical properties in the project vicinity. As indicated below, none of the alternatives under consideration result in a section 4(f) use of these other park, recreational, wildlife refuges, or historical resources. The discussion of each resource either documents (1) why the resource is not protected by the provisions in section 4(f) or (2) if it is protected by the provisions of section 4(f), why none of the alternatives under consideration cause a section 4(f) use by (a) permanently incorporating land into the project, (b) by temporarily occupying land that is adverse to the preservationist purposes of section 4(f), or (c) by constructively using land from the resource.

Two regions of influence (ROIs) were used to identify other park, recreational facilities, wildlife refuges, and historic properties potentially affected by the project alternatives. An ROI is a geographic area in which impacts for a particular resource would likely occur. The first ROI, in the vicinity of the JIT, encompasses the area within a 0.8 kilometer (km) (one-half mile) radius of the JIT. The second ROI is the 228.6 meter (m) (750-foot) band along the Southern Pacific mainline tracks (north to the Solano County/Sacramento County border and east to the Contra Costa/San Joaquin County border) that could be affected by increased regional rail service resulting from JIT operations.

Six parksites and two historic properties located in the JIT project vicinity in Oakland are evaluated below and are identified on Figures C-1, C-2, C-3, and C-4: Port View Park, Middle Harbor Park, Ernie Raimondi Field, Willow Mini-park, the Bertha Port and Chester Street Playgrounds, a structure referred to as the north training wall, and the Southern Pacific Railroad Oakland 16th Street Station and 16th Street Tower.

In addition, eight parks, one wildlife area, and one ecological reserve are located near the Southern Pacific mainline tracks north and east of the JIT: Aquatic Park, East Shore Park, Crescent Park, Boorman Park, Lucas Park, Point Pinole Regional Shoreline, San Pablo Bay Regional Park, Carquinez Strait Regional Shoreline Park, Point Edith Wildlife Area, and Peytonia Slough Ecological Reserve. The locations of these resources are depicted on Figures C-8 and C-9; however, as the only potential section 4(f) project issues associated with these sites would be noise and air pollutant emissions, they have not been described in detail below.

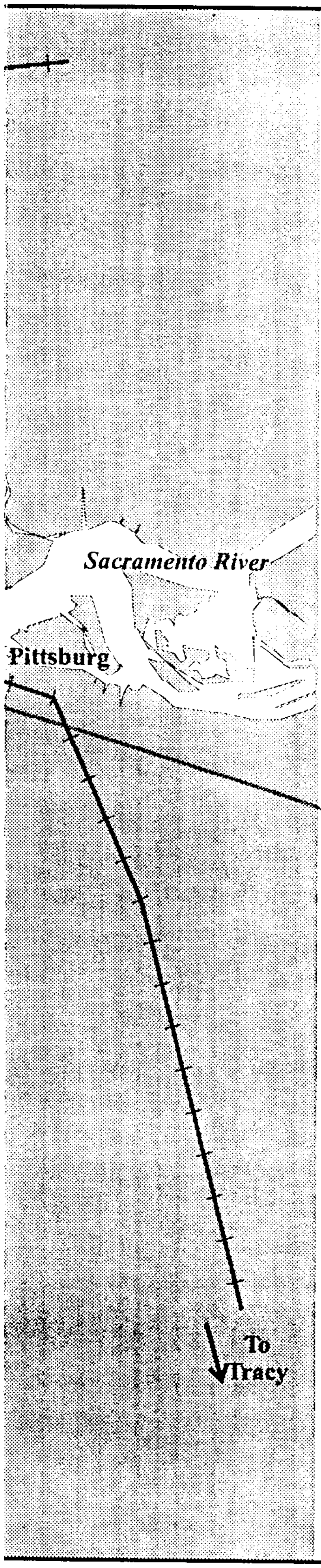


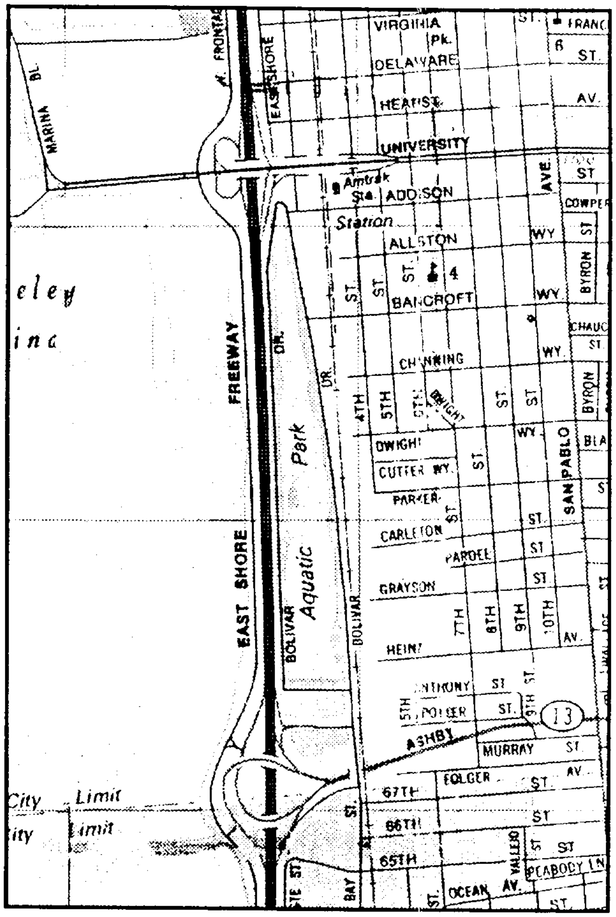
These parks are located adjacent to the Southern Pacific mainline tracks north and east of the project site.

Section 4(f) Resources Alo[ng Southern] Pacific Mainline C[orridor]

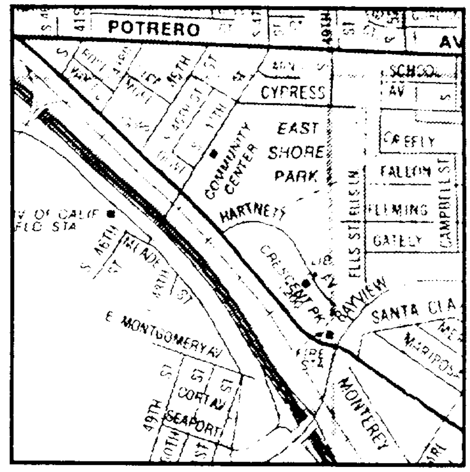
Fleet & Industrial Supply Ce[nter] and Port of Oaklan[d]

Figure C-8

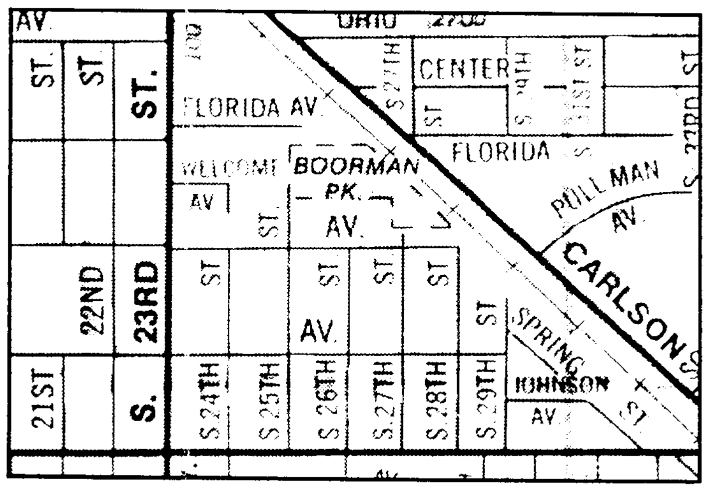




Insert 1: Aquatic Park



Insert 2: East Shore and Crescent Parks



Insert 3: Boorman Park

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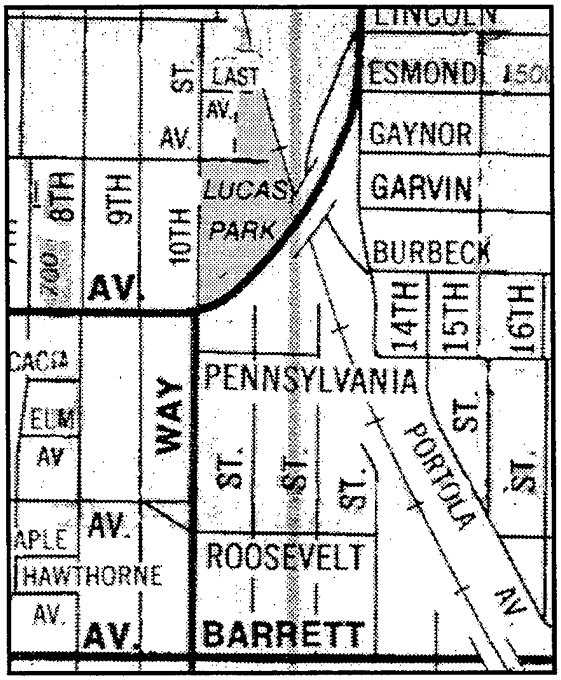
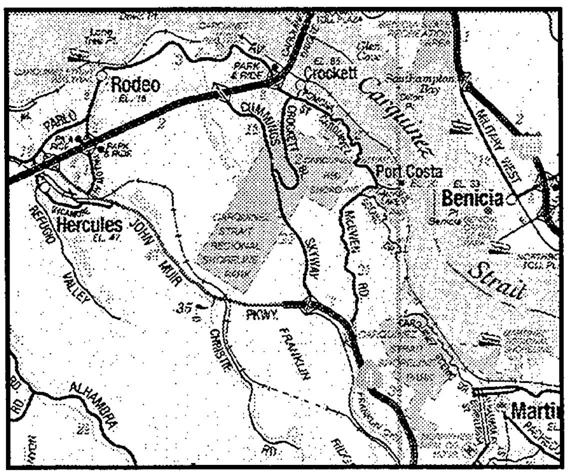
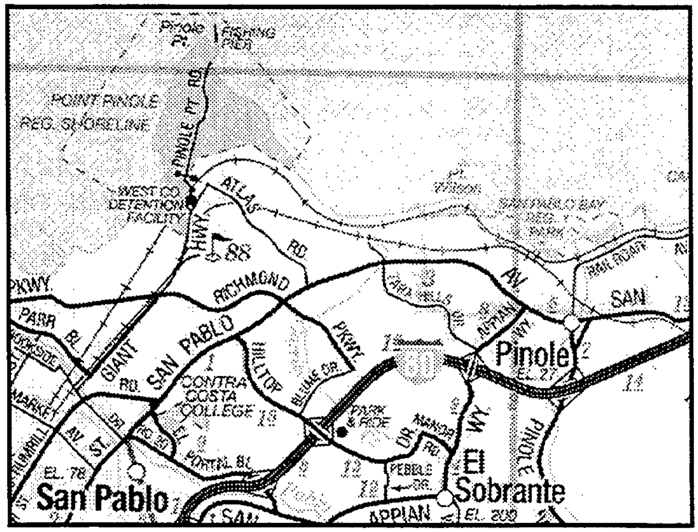


Insert 4: Lucas Park

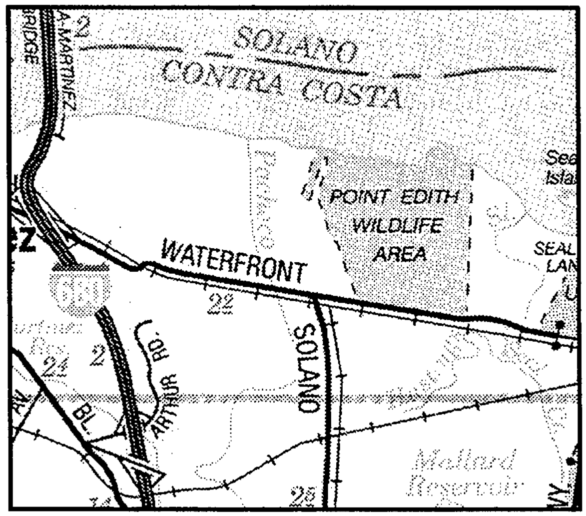


Insert 6: Carquinez Strait Regional Shoreline Park

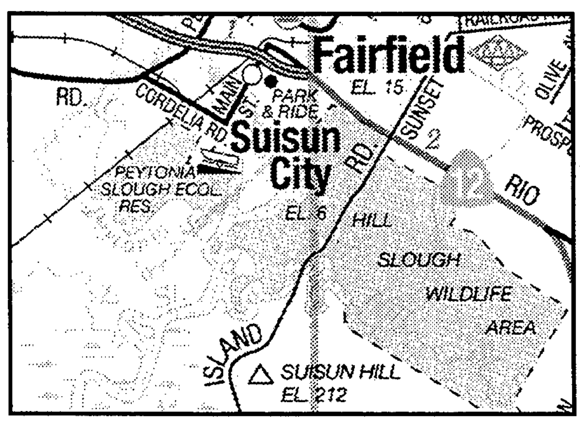
Scale Varies



Insert 5: Pinole Point Regional Shoreline and San Pablo Bay Regional Park



Insert 7: Point Edith Wildlife Area



Insert 8: Peytonia Slough Ecological Reserve

R:\0770\5parks - 2/19/97 - HC

These parks are located adjacent to the Southern pacific mainline tracks north and east of the project site.

Section 4(f) Resources Along the Southern Pacific Mainline Corridor

Fleet & Industrial Supply Center Oakland and Port of Oakland

Figure C-9

Port of Oakland

Developed by Tetra Tech

Description of Other Parks, Recreational Facilities, Wildlife Refuges, and Historical Properties

Port View Park

Port View Park is approximately 1.6 hectare (ha) (four acres) and is owned by the Port of Oakland. This park is located on the southeast side of 7th Street, near the Seventh Street Marine Container Terminal in West Oakland. Facilities provided at this park include a fishing pier, snack bar and bait shop, restrooms, playground, picnic tables, barbecues, outdoor sculpture, and an enclosed two-story viewing area. Popular activities at this park are picnicking and fishing. Pedestrian and vehicular access to Port View Park is via 7th Street. Middle Harbor Park, located about 2.9 km (1.8 miles) to the southeast, provides the only other public fishing pier and shoreline access to the bay.

Middle Harbor Park

Middle Harbor Park is an approximate 0.4-ha (one-acre) park owned by the Port of Oakland and located along the Oakland Inner Harbor between the Middle Harbor Terminal and the Union Pacific Intermodal Railyard. Facilities at Middle Harbor Park include picnic tables, benches, and a fishing pier. Visitors use this park for eating lunch and fishing. Vehicular and pedestrian access to this park is from Ferro Street via Middle Harbor Road. This access route passes through a heavily industrialized part of the Port area.

Ernie Raimondi Field

Ernie Raimondi Field is owned by the City of Oakland and is approximately 4.05 ha (10 acres). This field is located in West Oakland, west of I-880, and is bordered by 20th Street to the northeast, Campbell Street to the southeast, 18th Street to the southwest, and Wood Street to the northwest. Ernie Raimondi Field has one baseball diamond and two soccer fields. The field is used primarily for baseball/softball games and soccer matches. Street parking is available for vehicles, and pedestrian access is from the surrounding four streets.

During the weekends, it is estimated that between 300 and 400 people use this field. During the weekday, data on usage is derived from records of permitted activities. There are about 50 to 75 permitted users between the hours of 3:30 PM to sunset (Morgan, R., October 28, 1996, personal communication). Ernie Raimondi Field is the only park in the vicinity that provides active recreational fields for sports such as baseball and soccer.

Willow Mini-park

Willow Mini-park is owned by the City of Oakland and is approximately 0.36 ha (0.9 acre). This park is located in West Oakland, west of I-880, and is bordered by Willow Street to the northwest, 13th Street to the southwest, and 14th Street to the northeast. Facilities at this Mini-park include picnic areas (four tables), a half-size basketball court, restrooms, and a tool shed. Recreation activities at this Mini-park include picnicking, basketball, barbecuing, and checkers. Principal

vehicular access is via Willow Street. Approximately 50 or fewer people use the Willow Mini-park daily (Gullet, D., November 5, 1996, personal communication). This park has experienced problems with litter and is viewed as a potential location for illegal drug activities (Morgan, R., November 5, 1996, personal communication). Chester Street Playground, located about 1.04 km (0.65 miles) to the southeast, also provides a half-size basketball court to this neighborhood.

Bertha Port Playground

Bertha Port Playground is owned by the City of Oakland and is approximately 0.1-ha (one-quarter acre). This playground is located in West Oakland, west of I-880, and is bordered by Shorey Street to the east, Wood Street to the south, and Goss Street to the west. Approximately 0.06 ha (0.14 acre) of this site is grass, and the remaining 0.04 ha (0.11 acre) is a playground. There are no athletic facilities at this site. Adults and children use the playground to relax and have lunch. The West Oakland community, estimated at approximately 23 to 30 persons per day (Gullet, D., November 5, 1996, personal communication) uses this playground. Bertha Port Playground has also experienced problems with litter and is viewed as a potential location for illegal drug activities (Morgan, R., November 5, 1996, personal communication).

Chester Street Playground

Chester Street Playground is owned by the City of Oakland and is approximately 0.5 ha (0.13 acre). This playground is located in West Oakland, west of I-880, and is bordered by Chester Street to the southeast between 3rd and 5th Streets. This playground is mostly paved with a half-size basketball court and a small sand playground with play apparatus. There are no on-site restrooms. In mid-October 1996, vandals destroyed the play equipment, and the city has no plans to restore the playground to its previous condition (Morgan, R., November 5, 1996, personal communication. Prior to the October 1996 vandalism incident, it was estimated that about 20 people per day used this facility (Gullet, D., November 5, 1996, personal communication).

Union Pacific Intermodal Railyard North Training Wall

Although located on the Union Pacific Intermodal Railyard, it is presumed that the US Army Corps of Engineers owns the north training wall, a structure that is located along the northern edge of the Inner Harbor Channel. There is also a parallel south training wall along the northern edge of Alameda Island. Together, these two training walls defined the alignments for moles (i.e., bermed railroad tracks extending into the water) constructed at the Alameda and Oakland side of the Oakland Inner Harbor.

The north training wall is visible for about 731.7 m (2,400 feet), extending east from the western edge of the Union Pacific Intermodal Railyard. To the east, this training wall is completely buried under fill. It is presumed that more than 2,134 m (7,000 feet) of the training wall are buried in this manner.

The north training wall was originally seen as an underwater jetty made of stone and pilings and designed to train the channel, forcing it to scour itself and deepen the channel for navigational purposes. Later, as the wall was constructed, it was raised above the high-water mark, converting it into a jetty. The north training wall is backfilled and in places is covered by fill installed by the railroad many years after the wall was constructed.

Access to this historic property is via Ferro Street but it is not accessible by the public. The north training wall is part of the Union Pacific Intermodal Railyard that employs about 55 workers. It is not used for any purpose.

Southern Pacific Railroad Oakland 16th Street Station and 16th Street Tower

The Southern Pacific Railroad Oakland 16th Street Station and Tower is located at the end of 16th Street off Wood Street in West Oakland. The station was constructed in 1911-1912 by the Southern Pacific Railroad and is 83.2 m (273 feet) long overall, 18.3 m (60 feet) high, and contains beaux-arts decorative details. The 16th Street Tower is a three-story reinforced concrete structure. This depot was an active train station from 1912 up until it was damaged in the 1989 Loma Prieta earthquake, when other buildings in the station area were converted for temporary use as a train station. The historic station is vacant and no longer used. Train service is now provided at two new Amtrak stations at Emeryville and Jack London Square.

IMPACTS ON OTHER PARKS, RECREATIONAL FACILITIES, WILDLIFE REFUGES, AND HISTORICAL PROPERTIES

Based on the four alternative JIT footprints, the project would not involve direct or permanent use of any of these other section 4(f) resources. However, during operations and construction, the 4(f) resources may experience other impacts, as described below.

Access

JIT operations would not restrict access to 4(f) resources in the project vicinity. During JIT construction, access to Port View Park and Middle Harbor Park could be affected by increased truck traffic along 7th Street and Middle Harbor Road, respectively. JIT construction under all four project alternatives would also require reconstruction and/or extension of Middle Harbor Road through the FISCO site. However, measures will be taken to keep these two roads open to public through-traffic and therefore not reduce or interfere with public use of these two parksites (see Measures to Minimize Harm). There would be no access impacts at the 4(f) parks, wildlife area, or ecological reserve adjacent to the Southern Pacific rail line because no new construction along these tracks is proposed as part of the JIT, therefore, existing access to these resources would not be disturbed.

Noise

Any of the four project alternatives could result in increased noise levels attributable to increases in truck and rail traffic that in turn, could effect noise-sensitive 4(f) resources. Noise generated by increased vehicle traffic is not expected to have a severe impact on nearby 4(f) resources in the project vicinity. The Cypress Freeway, scheduled for completion sometime in 1997, would reduce existing traffic volumes along many surface streets and would add this freeway segment as a new noise source in the neighborhood. Because of high existing and projected future background traffic volumes anticipated with completion of the Cypress Freeway, future project-induced traffic would not have a severe impact on noise levels at these other 4(f) resources because it would not substantially impair activities at these existing urban resources.

Future noise levels from daily rail operations were estimated for six park sites in the immediate JIT vicinity. Rail operations for each alternative were broken down by train length and train type (i.e., Amtrak, switchers, and freights). A 15-MPH train speed was assumed for all rail operations. The rail operations noise model used for this analysis simulates the history of pass-by events and then computes CNEL levels based on event duration, number of daytime events, number of evening events, and number of nighttime events (details on existing and projected type and number of trains travelling along the Southern Pacific mainline in the Bay Area are documented in Appendix J.3 in Volume II). Calculations were performed with and without train horn noise. The rail operations noise model uses locomotive noise equations from Lotz and Kurzweil (1979) and Remington, Rudd, and Mason (1980). Railcar noise equations used in the model are from Lotz and Kurzweil (1979).

As shown in Table C-2, future projected noise levels at the six nearby 4(f) park sites would be lower than what has been recorded in the past at FISCO. Therefore, it is anticipated that none of the alternatives would generate noise levels that would substantially impair use of parks or playgrounds within 0.8 km (one-half mile) of the JIT. The Union Pacific training wall and Southern Pacific 16th Street Station are not publicly accessible and are not noise-sensitive resources, therefore project noise would not substantially impair the use or integrity of these resources.

There are eight additional parksites, as well as one wildlife area and one ecological reserve north and east of the proposed JIT site, that are located within 229 m (750 feet) of the Southern Pacific mainline tracks (see Figures C-8 and C-9):

- Aquatic Park (Berkeley);
- East Shore Park (Richmond)
- Crescent Park (Richmond);
- Boorman Park (Richmond);
- Lucas Park (Richmond);

Table C-2
Noise Impacts of Rail Operations at Park and Playground Locations within 0.8 km (one-half mile) of the JIT

Park	CNEL Increment from Rail Operations (dB)			
	Maximum Marine/ Maximum Rail	Minimum Marine/ Minimum Rail	Maximum Marine/ Minimum Rail	Reduced Harbor Fill
Port View Park	53.8	53.3	53.5	53.5
Middle Harbor Park	54.5	54.1	54.6	55.2
Ernie Raimondi Field	53.8	53.3	53.4	53.3
Willow Mini Park	53.9	53.8	53.9	54.0
Bertha Port Playground	54.5	54.2	54.5	54.7
Chester Street Playground	55.5	54.0	54.2	55.5

Note: Analyses assume no routine sounding of train horns in the JIT area.

- Point Pinole Regional Shoreline (Contra Costa County, managed by East Bay Regional Parks District);
- San Pablo Bay Regional Park (Contra Costa County, managed by East Bay Regional Parks District)
- Carquinez Strait Regional Shoreline Park (Contra Costa County, managed by East Bay Regional Parks District)
- Point Edith Wildlife Area (Contra Costa County)
- Peytonia Slough Ecological Reserve (Solano County)

The existing daily number of freight trains travelling north along the mainline segment between the JIT and Richmond is 20. The projected average increase in the number of freight trains travelling along this segment ranges from four under the Minimum Marine/Minimum Rail Alternative to 11 under the Maximum Marine/Maximum Rail, Maximum Marine/Minimum Rail, and Reduced Harbor Fill Alternatives. Twelve freight trains travel north daily in the mainline segment between Richmond and Martinez. The projected average increase in the number of freight trains travelling along this segment ranges from eight under the Minimum Marine/Minimum Rail Alternative to 15 under the Maximum Marine/Maximum Rail, Maximum Marine/Minimum Rail, and Reduced Harbor Fill Alternatives (see Appendix J.3 in Volume II). However, noise caused by increases in train pass-by trips is not anticipated to cause a substantial decrease or impairment in the use or enjoyment of nearby 4(f) resources because of the existing high volume of train traffic along this corridor.

Table C-3 summarizes the results of the rail noise modeling analysis. Compared to conditions without the JIT project, JIT implementation would result in a noise level increase of less than 3 dB. Given the already high ambient noise

environment in the vicinity of the Southern Pacific mainline tracks, this minor increase in noise would not substantially impair the use or enjoyment of these 4(f) resources by noise-sensitive receptors (also see Table 5-12, Section 5.1.11.2, page 5-67 in Volume I).

Table C-3
CNEL Noise Impacts of Rail Operations (dB) to Sensitive Receptors within 229 m (750 feet) of the Southern Pacific Mainline Tracks

	No Action		Maximum Marine/ Maximum Rail Alternative		Minimum Marine/ Minimum Rail Alternative		Maximum Marine/ Minimum Rail Alternative		Reduced Harbor Fill Alternative	
Distance (m)	w/o Horn	w/Horn	w/o Horn	w/Horn	W/o Horn	w/Horn	w/o Horn	w/Horn	w/o Horn	w/Horn
229 (750 feet)	65.7	66.0	67.9	68.2	66.3	66.5	68.0	68.2	68.0	68.2

Air Quality

Recent air quality monitoring data near the project site is summarized under Impacts on Section 4(f) Properties, as well as in Table 3-23 in Volume I of the EIS/EIR. Future carbon monoxide emissions would fall within the range of what has been historically recorded in the project area and therefore project emissions would not substantially impair the use or enjoyment of 4(f) properties in the JIT vicinity. Similarly, it is anticipated that there would be no significant carbon monoxide impact on 4(f) properties that are located near the Southern Pacific mainline tracks.

Projected future ozone precursor emissions without the project would be high compared to the BAAQMD's regulatory threshold of 15 tpy (see discussion under Impacts on Section 4(f) Properties) and JIT implementation under all four reuse alternatives would result in further increased emissions. However, these emissions would not substantially impair use or enjoyment of section 4(f) resources, including 4(f) resources in the immediate JIT vicinity and those adjacent to the Southern Pacific mainline tracks, because they are located in areas already affected by degraded air quality and existing rail operations.

All four project alternatives would require demolishing existing structures within the JIT footprint. This demolition activity would be a temporary source of fugitive dust and construction vehicle emissions. However, when properly controlled with best management practices, dust from these activities would not create a localized nuisance nor would it substantially impair the use or enjoyment of nearby 4(f) resources. The closest 4(f) resources to the proposed area of demolition and construction would be Port View Park and Middle Harbor Park. However, both sites are located approximately 366 m (1,200 feet) from the outer edge of the JIT's boundary; therefore, temporary air emissions from demolition activities would not be expected to interfere with use of these parks.

Visual

Demolishing FISCO buildings and multi-story warehouses, seen in the foreground from Port View and Middle Harbor Parks under all four project alternatives, would have a long-term beneficial visual effect. Demolition would create more expansive viewing opportunities to the north and east towards downtown Oakland and the East Bay Hills. Short-term building demolition activities may result in temporary visual impacts; however, given the industrial nature of surrounding property in the project area, any visual intrusion would not interfere substantially with use of these two parks.

The JIT would not have any adverse visual impacts to users of Ernie Raimondi Field, Willow Mini-park, Bertha Port Playground, or the Chester Street Playground. These four parksites are located east of the proposed Cypress Freeway currently under construction. In addition, noise walls are proposed around certain sections of the Cypress Freeway that could further block any existing views of the JIT site. The Union Pacific north training wall and Southern Pacific 16th Street Station are not publicly accessible and are located in highly urbanized industrial areas, therefore there would be no visual effects to these resources. There would also be no visual impacts at the 4(f) parks, wildlife area, or ecological reserve adjacent to the Southern Pacific mainline because this is an existing rail corridor and no new construction along these tracks is proposed as part of the JIT.

Wildlife and Vegetation

The 4(f) resources in the JIT project vicinity are located in disturbed, developed areas that support limited wildlife or vegetation resources. Therefore, there would be no impacts to wildlife or vegetation. No severe impacts to wildlife and vegetation would be expected at the 4(f) parks, wildlife area, or ecological reserve located along the Southern Pacific mainline because this is an existing rail corridor and no new construction along these tracks is proposed as part of the JIT.

Water Quality

The other 4(f) resources in the project vicinity are located in disturbed, developed areas that do not contain natural water resources. Therefore, there would be no water quality impacts. No severe water quality impacts would be expected at the 4(f) parks, wildlife area, or ecological reserve adjacent to the Southern Pacific mainline because this is an existing rail corridor and no new construction along these tracks is proposed as part of the JIT.

REFERENCES

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California Department of Transportation and US Federal Highway Administration. 1991. Final Environmental Impact Statement/Report, Proposed Route I-880 Replacement Project from I-980 Interchange to I-80/I-580/I-880 Distribution Structure in the Cities of Oakland and Emeryville, Alameda County, California. Caltrans District 4. San Francisco, CA. September 1991.

Lotz, R. and L.G. Kurzweil. 1979. "Rail Transportation Noise." Chapter 33 in C. M. Harris (ed.), *Handbook of Noise Control, Second Edition.* McGraw-Hill Book Co. New York, New York. 720 pp.

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Remington, P.J., M.J. Rudd, and R. Mason. 1980. "Measurement and Diagnosis of Diesel Electric Locomotive Noise," Noise Control Engineering 14(2):66-73.

US Navy. 1990. Environmental Impact Statement for Candidate Base Closures/Realignment in the San Francisco Bay Area, San Francisco, California. Prepared by Tetra Tech, Inc. San Francisco, California. November 1990.

PERSONAL COMMUNICATIONS

Grace, Steve, Supervisor 1, Oakland City Parks and Recreation Department. October 29, 1996, with Ed Bondoc, Tetra Tech, Inc.

Gullet, Dave, Area Manager, Oakland City Parks and Recreation Department. November 5, 1996, with Ed Bondoc, Tetra Tech, Inc.

Luckhart, Dean, Port of Oakland. November 6, 1996, personal communication with Ed Bondoc, Tetra Tech, Inc.

Morgan, Roy, Area Administrator, Oakland City Parks and Recreation Department. October 28 and November 5, 1996, with Ed Bondoc, Tetra Tech, Inc.

Yamashita, A., Park Supervisor 2, Oakland City Parks and Recreation Department. November 5, 1996, with Ed Bondoc, Tetra Tech, Inc.

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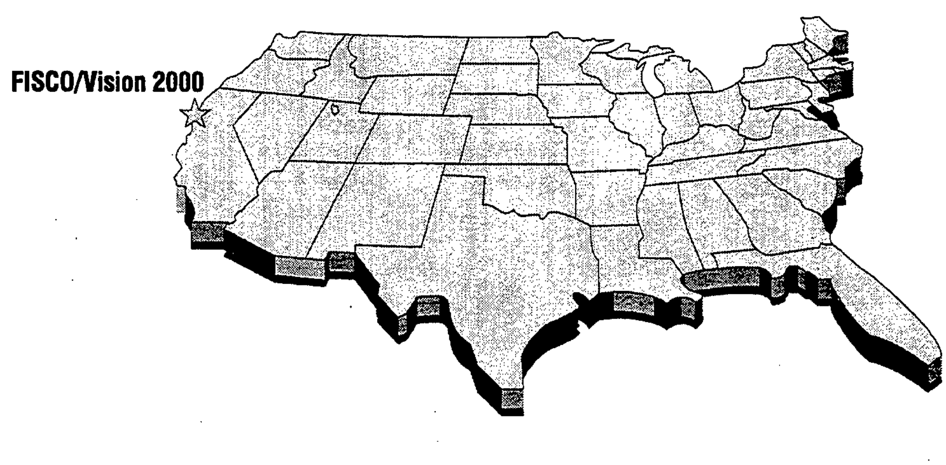


APPENDIX D
PUBLIC INVOLVEMENT

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:
5090.1
Ser 185/EP6-978
May 30, 1996

PUBLIC NOTICE

Subject: **Notice of Scoping of Public Concerns regarding a combined Environmental Impact Statement/Environmental Impact Report on the Disposal and Reuse of the Fleet and Industrial Supply Center Oakland, California**

The United States Navy in association with the Port of Oakland, California, announces its intent to prepare a joint Environmental Impact Statement /Environmental Impact Report (EIS/EIR) for the proposed disposal and reuse of the Fleet and Industrial Supply Center, Oakland (FISCO), property and structures in Oakland, California. The Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the base closure process of 1995, directed the Navy to close FISCO. The EIS/EIR will be prepared in accordance with Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500 - 1508), the California Environmental Quality Act (CEQA), and Public Law 102-484 Section 2834, as amended by Public Law 104-106 Section 2867. The Navy will be the EIS lead agency for NEPA documentation and the Port of Oakland will be the EIR lead agency for CEQA documentation.

FISCO is located approximately two miles west of the Oakland central business district, on the eastern shore of San Francisco Bay. It consists of approximately 528 acres and has about 125 structures that support general supply operations, waterfront operations and administration.

The EIS/EIR will address the potential impacts to the environment that may result from the disposal of the FISCO property and subsequent reuses. FISCO is within the planning jurisdiction of the Port of Oakland. The Port of Oakland Vision 2000 Program proposes development of ship, railroad, and truck freight handling facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California and an intermodal port of national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

The development of the Port of Oakland Vision 2000 Program is expected to require additional property outside of the FISCO boundary in order to meet the objectives of the Program. This joint EIS/EIR will provide a program level analysis supporting both the Navy NEPA requirements to describe potential environmental impacts associated with the property disposal at FISCO, and the Port of Oakland CEQA requirement to analyze environmental impacts of implementing the Vision 2000 Program.

The EIS/EIR will evaluate a "No Action" Alternative and several reuse alternatives. The "No Action" Alternative would result in the federal government indefinitely retaining ownership of FISCO property. Under the "No Action" Alternative the Navy would continue leasing property to the Port of Oakland under existing 50 year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions. The reuse alternatives are expected to combine the common land use components of a railroad terminal, marine terminals, public waterfront access and marine habitat enhancement. As FISCO is within the Port of Oakland jurisdiction and is designated as a Port Priority use in the April 1996 San Francisco Bay Conservation and Development Commission and the Metropolitan Transportation Commission Seaport Plan Update, alternatives would emphasize port-related activities. Revisions to these alternatives may be developed during the public scoping period. The EIS/EIR will evaluate the potential for environmental impacts to traffic conditions, air quality, biological resources, cultural resources, utilities, and other environmental issues through this scoping process.

Federal, state and local agencies, and interested individuals are encouraged to participate in the scoping process for the EIS/EIR to determine the range of issues and reuse alternatives to be addressed. A **public scoping meeting** to receive oral and written comments will be held on **Thursday June 13, 1996 at 7:00 p.m., at the McClymonds High School auditorium** located on 2607 Myrtle Street (near 26th Street) in Oakland, California. In the interest of available time, each speaker will be asked to limit oral comments to five (5) minutes.

In addition, written comments may be submitted by July 1, 1996 to Mr. Gary J. Munekawa, Environmental Planning Branch, Code 185GM, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006, telephone 415-244-3022, fax 415-244-3737. For further information regarding the Port of Oakland Vision 2000 Program please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Section, 530 Water Street, Oakland, CA 94607, telephone 510-272-1181, or fax 510-465-3755.

John H. Kennedy

ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY CENTER OAKLAND (FISCO), CALIFORNIA INFORMATION SHEET

Federal and State Lead Agencies for EIS/EIR Preparation

The United States Navy and the Port of Oakland are preparing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the environmental consequences potentially resulting from the proposed disposal and reuse of the Fleet Industrial and Supply Center, Oakland (FISCO), property and structures in Oakland, California. The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as implemented by the 1995 base closure process, directs the Navy to close FISCO. The Navy is authorized to convey the property from Navy ownership under Public Law 102-484, Section 2834, as amended by Public Law 104-106, Section 2867. Full operational closure is scheduled to occur in September of 1998. The Navy will be the lead agency for documentation pursuant to the National Environmental Policy Act (NEPA) as it applies to impacts potentially resulting from disposal of FISCO property and structures. The Port of Oakland will be the lead agency for documentation pursuant to the California Environmental Quality Act (CEQA) as it applies to impacts potentially resulting from implementation of its Vision 2000 Program.

Scope of EIS/EIR Analysis

The EIS/EIR will address the potential impacts to the environment that may result from the disposal of the FISCO property by the Navy and subsequent reuse of FISCO. FISCO is within the planning jurisdiction of the Port of Oakland and has been used as a Navy port supply and administrative facility. The Port of Oakland's Vision 2000 Program proposes development of an intermodal system of ship, railroad, and truck freight facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

The EIS/EIR will examine the potential environmental impacts of four Vision 2000 Program alternatives: (1) a Maximum Marine Terminal/Maximum Rail Terminal Alternative (Alternative A); (2) a Minimum Marine Terminal/Minimum Rail Terminal Alternative (Alternative B); (3) a Maximum Marine Terminal/Minimum Rail Terminal Alternative (Alternative C); and (4) a Reduced Fill Alternative (Alternative D). Although revisions to alternatives may be refined during the public scoping period, these four alternatives are expected to combine the common land use components of a joint intermodal terminal, marine terminals, and public waterfront access and marine habitat enhancement. The No Action Alternative would result in the federal government indefinitely retaining ownership of FISCO property. Under the No Action Alternative, the Navy would continue leasing property to the Port under the existing 50-year lease agreement as allowed by Public Law 102-484, as amended, and supported by the 1995 base closure decisions.

Purpose of This Public Scoping Hearing and the Public Involvement Program

The purpose of this public scoping meeting is to solicit public comments regarding the scope and content of the environmental document prior to its publication as a Draft EIS/EIR. Written comments must be postmarked no later than July 1, 1996, in order to assure their full consideration in the EIS/EIR preparation. This hearing is part of the overall public involvement program established for the EIS/EIR for Disposal and Reuse of FISCO. The Port of Oakland also plans additional meetings regarding the overall Vision 2000 Program.

Schedule for Receiving Further Public Input

Further public input will be solicited following publication of the Draft EIS/EIR in early 1997. Public comment on the Draft EIS/EIR will continue through a 45-day public review period and will also include one more public hearing. Written responses to public comments received on the Draft EIS/EIR will be prepared and included in the final document. If you would like to submit written comments or wish to be added to the Navy mailing list for future information, please forward your comments and/or your name and address to the following contact person and address:

Mr. Gary Munekawa, Code 1852GM
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-5006
Telephone (415) 244-3022
Fax (415) 244-3737

LOCATION, DESCRIPTION, AND HISTORY OF FISCO

Location and Description of the FISCO Site

FISCO is located approximately two miles west of the City of Oakland central business district, on the eastern shoreline of San Francisco Bay. FISCO consists of approximately 528 acres and is bounded by 7th Street on the north, the Southern Pacific West Oakland railyard on the east, the Union Pacific railyard on the south, and Middle Harbor to the west. Existing facilities include about 125 structures that support general supply operations, waterfront operations, and administration.

History

In 1940, the Port of Oakland sold approximately 400 acres of uplands property to the Navy for one dollar. This property sale was recorded with a reversionary clause stating that the deed would revert back to the Port should the Government decide not to use the property for a naval supply depot, or other naval or military purposes. The Navy subsequently purchased additional lands to expand FISCO which do not revert to the Port of Oakland. Currently, approximately 400 acres of FISCO will automatically revert to the Port of Oakland. An additional 140 acres acquired by the Navy will not automatically revert to the Port of Oakland. The Navy is required to close FISCO and must convey these 140 acres from Navy ownership.

The site purchased by the Navy occupies former tidal marshlands that were dredged and filled in 1940. In 1941, the Naval Supply Center Oakland (FISCO's former name) began support operations for World War II. After the war and through the 1980s, FISCO was the main supply facility supporting Department of Defense activities in the Pacific Basin. The mission of FISCO was to provide supply and support services to fleet units and shore activities, as assigned.

Since the mid-1980s, the Port has been engaged in negotiations to acquire surplus Navy property for development and expansion of maritime and transportation-related facilities. Under the provisions of Public Law 102-484 (Section 2834[b]) of the Defense Authorization Act of 1993, the Navy is authorized to lease portions of FISCO to the Port for a period of 50 years. In late 1993, the Port successfully concluded negotiations with the Navy to acquire the first parcel of 220 acres of Navy property to expand intermodal rail facilities and maritime-cargo-related tenant uses. To date, approximately 135 acres of this leased area is in use as general transportation support activities, including warehousing, container depot activities, transloading, and container freight stations. The Port and Navy are currently working towards leasing the remaining FISCO property. Public Law 102-484 was amended to allow the Navy to transfer the 140 acres to the Port which do not automatically revert to the Port.

Development of the Vision 2000 Program is expected to require additional property outside the FISCO boundary to meet the Program's objectives. This non-Navy property may include the following parcels:

- Union Pacific's West Oakland Railyard owned by the Port (78 acres);
- Union Pacific's West Oakland Railyard owned by Union Pacific (9 acres);
- Southern Pacific's West Oakland Railyard (133 acres);
- Don-Gary lease owned by the Port (9 acres);
- Port-owned property rented on a space assignment basis (5 acres); and
- Oakland Army Base (11 - 26 acres).

VISION 2000 PROGRAM - ALTERNATIVES DEVELOPMENT

The Port of Oakland has investigated several land use configurations that combine different acreages of common land uses. These uses and configurations reflect development opportunities that meet the Port's overriding goals to increase productivity, to improve efficiency of integrated intermodal services, and to provide needed employment and open space opportunities. Land uses included as part of all four Vision 2000 Program alternatives to be analyzed in the EIS/EIR include:

(a) An intermodal rail terminal (including working tracks, support tracks, and parking) could range between 190 and 340 acres.

(b) Marine terminals development (including up to five new berths) could range between 122 and 278 acres.

(c) A public waterfront access and marine habitat enhancement area could range up to 155 acres and would be located in the Middle Harbor Basin.

The attached table and maps are provided to assist you in contributing comments to this public involvement program. They include: (1) A table summarizing the main features of the four Vision 2000 Program alternatives; (2) A site map that identifies individual parcels; (3) A map of the Maximum Marine Terminal/Maximum Rail Terminal Alternative (Alternative A); (4) A map of the Minimum Marine Terminal/Minimum Rail Terminal Alternative (Alternative B); (5) A map of the Maximum Marine Terminal/Minimum Rail Terminal Alternative (Alternative C); and (6) A map of the Reduced Fill Alternative (Alternative D).

ENVIRONMENTAL ISSUES TO BE EVALUATED IN THE EIS/EIR

Although the issues of special concern may change as the EIS/EIR scoping process continues, the following issues have been initially identified as particularly sensitive to future development activities in the Vision 2000/FISCO project area:

- Traffic and circulation impacts associated with railroad, truck, and automobile operations;
- Land use conflicts;
- Socioeconomic impacts regarding changes to local employment, income, population, and housing characteristics, as well as the potential for adverse disproportionate effects on minority and low-income populations;
- Impacts on cultural resources;
- Impacts to sensitive biological habitat along the shoreline;
- Air quality and noise issues related to proposed development;
- Geologic and hydrologic conditions affecting development; and
- Identification and remediation of hazardous materials and hazardous waste.

The EIS/EIR will describe the existing conditions/environmental setting, identify significant and less than significant impacts due to disposal and proposed reuse, and will recommend mitigation measures for significant impacts identified for the following resources or categories of investigation:

Land Use	Geology and Soils	Traffic and Transportation
Socioeconomics	Biological Resources	Utilities
Aesthetics and Scenic Resources	Air Quality	Hazardous Materials and Waste
Public Services	Noise	Cultural Resources
Water Resources	Cumulative Effects	

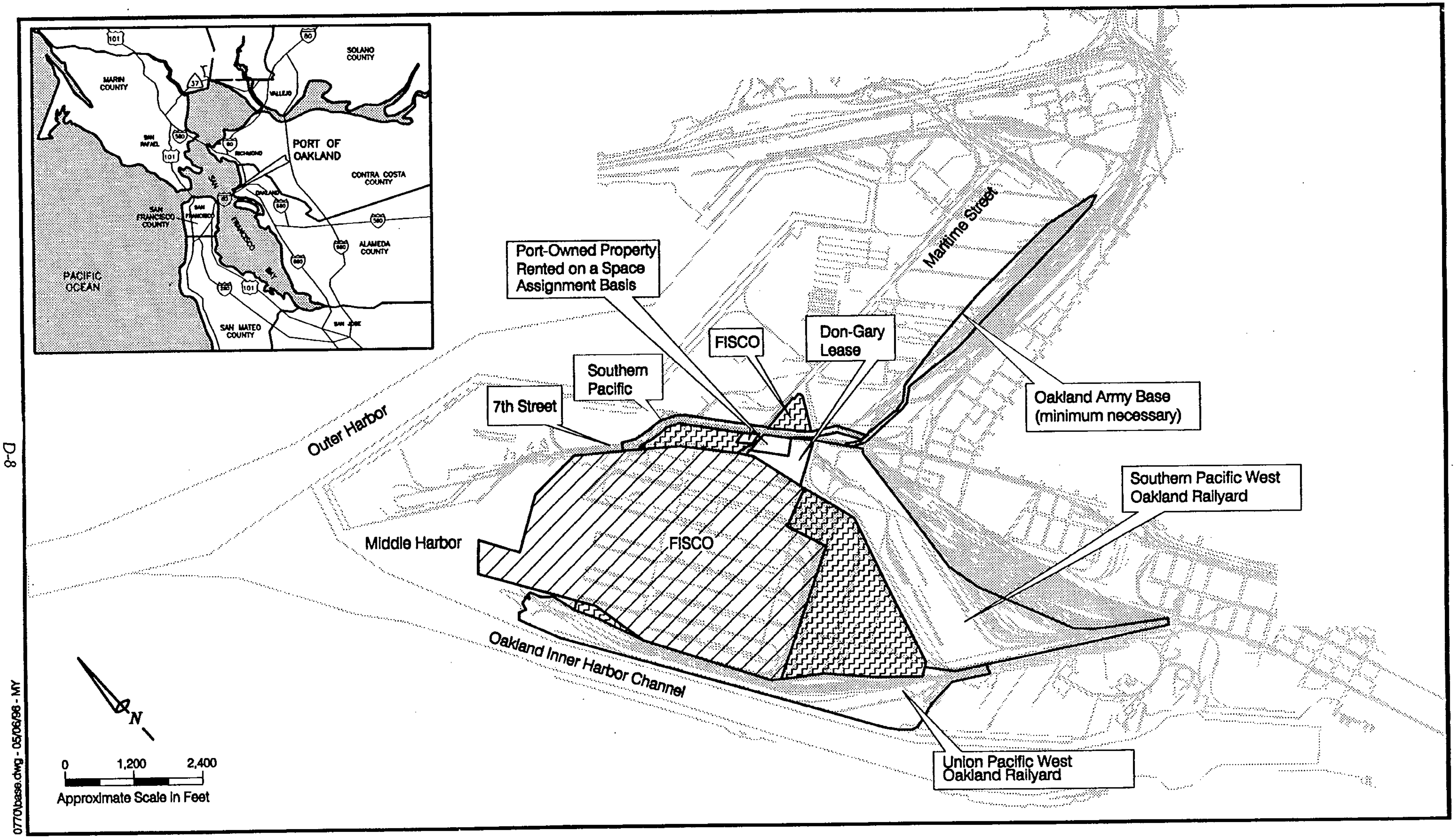
For specific information concerning the Vision 2000 Program, please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Department, at telephone (510) 272-1181 or fax number (510) 465-3755. Thank you for participating with the Navy and the Port in the environmental planning process.

Alternatives Summary
Environmental Impact Statement/Environmental Impact Report for Disposal and Reuse of Fleet Industrial and Supply Center, Oakland

	Maximum Marine Terminal/Maximum Rail Terminal Alternative (Alternative A)	Minimum Marine Terminal/Minimum Rail Terminal Alternative (Alternative B)	Maximum Marine Terminal/Minimum Rail Terminal Alternative (Alternative C)	Reduced Fill Alternative (Alternative D)
RAILROAD TERMINAL				
Size (acres)	342 +/-	190 +/-	190 +/-	320 +/-
Rail Service	Southern Pacific & Union Pacific	Burlington Northern-Santa Fe	Burlington Northern-Santa Fe	Southern Pacific & Union Pacific
Loading Tracks				
Number of Tracks	7	8	8	7
Total track feet	46,275	35,655	35,655	48,266
Number of Car Spots	151	116	116	156
Support Tracks - Oakland Army Base				
Number of Tracks	24	NA[1]	9[2]	NA
Total Track Feet	76,700	NA	39,657	NA
Number of Car Spots	241	NA	TBD	NA
Acres	26	NA	11	NA
Parking Slots				
Center-Row	3,823	2,950	2,950	4,316
Satellite	1,350	702	702	1,215
Chassis Slots	2,860	900	900	1,500
MARINE TERMINALS				
Size (acres)	260 +/-	100 +/- (Middle Harbor) 22 +/- (Outer Harbor)	290 +/-	278 +/-
Location	Inner Harbor	Middle/Outer Harbors	Inner Harbor	Inner Harbor
Depth (feet)	1,890	2,000/1,400	1,800-2,578	1,726-2,313
Berths				
Number	Five	Two	Five	Five
Length (feet)/berth	1,200	1,200	1,200	1,200
Increase Inner Harbor Channel Width?	no	no	no	yes (new channel width = 730' +/-)
MITIGATION AREA				
Size (acres)	155	55	155	155
Harbor Transportation Center				
Relocate HTC offsite?	yes	no	yes	yes
ONSITE INFRASTRUCTURE				
Relocate Middle Harbor Road?	yes	no	no	yes
Grade-Separated Access @ Main Gate?	no	yes	yes	yes
FILL				
Total Fill Removed (acres)	(-27.82)	(-20.74)	(-27.82)	(-51.96)
Total Fill Placed (acres)	65.12	56.15	38.17	38.17
Total Net Fill (acres)	37.30	35.41	10.35	(-13.79)

[1] Not applicable

[2] Another support track storage option is to develop all of it on FISCO property.



LEGEND:

FISCO Property Subject to Reversion to Port

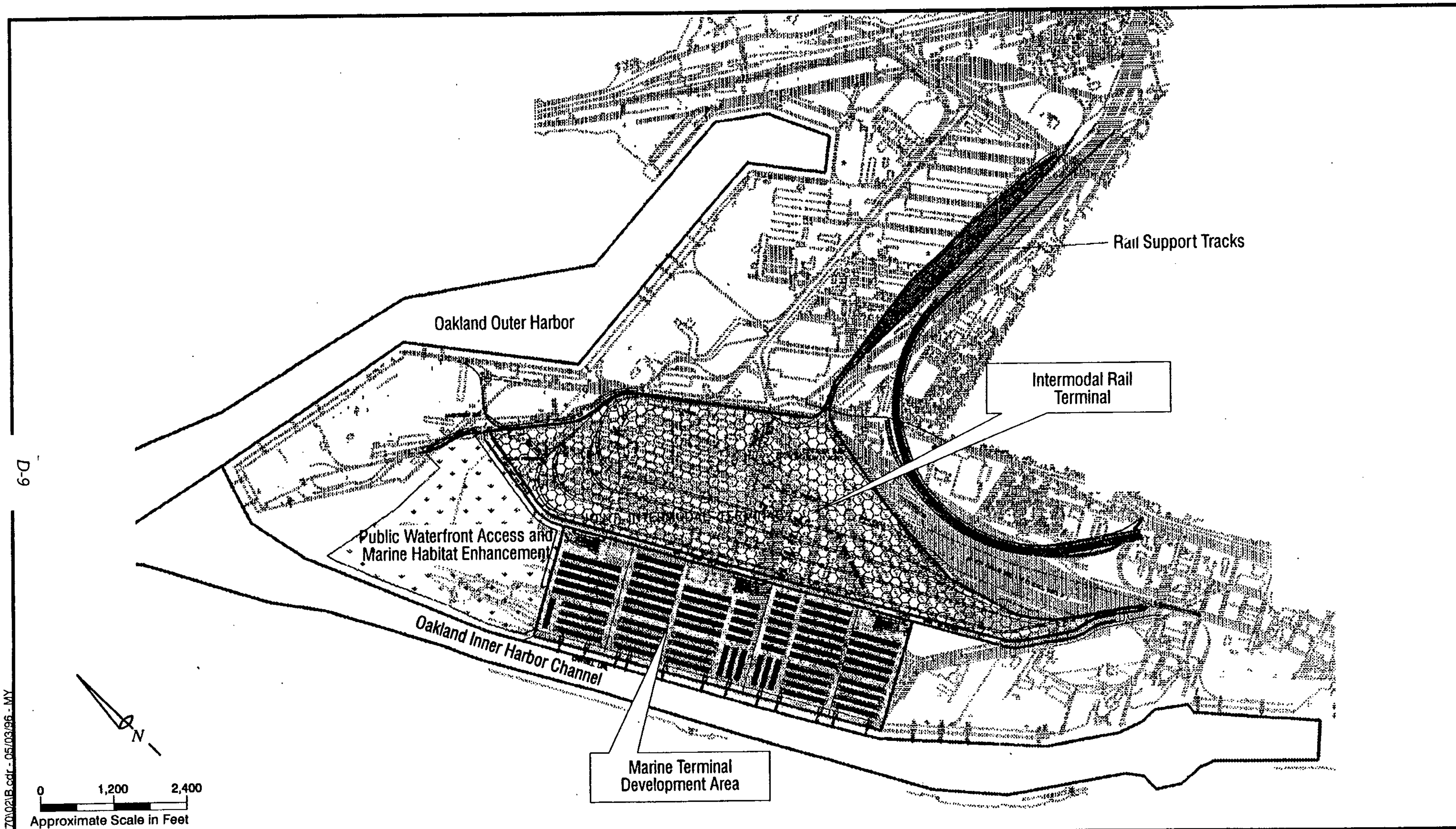
Nonreversionary FISCO Property

Vision 2000 Maritime Development/FISCO

Site Map

Port of Oakland

Source: Port of Oakland, 1996



Vision 2000 Maritime Development/ FISCO Alternatives

Maximum Marine Terminal/Maximum Rail Terminal Alternative

(Alternative A)

Port of Oakland

Source: Port of Oakland, 1996

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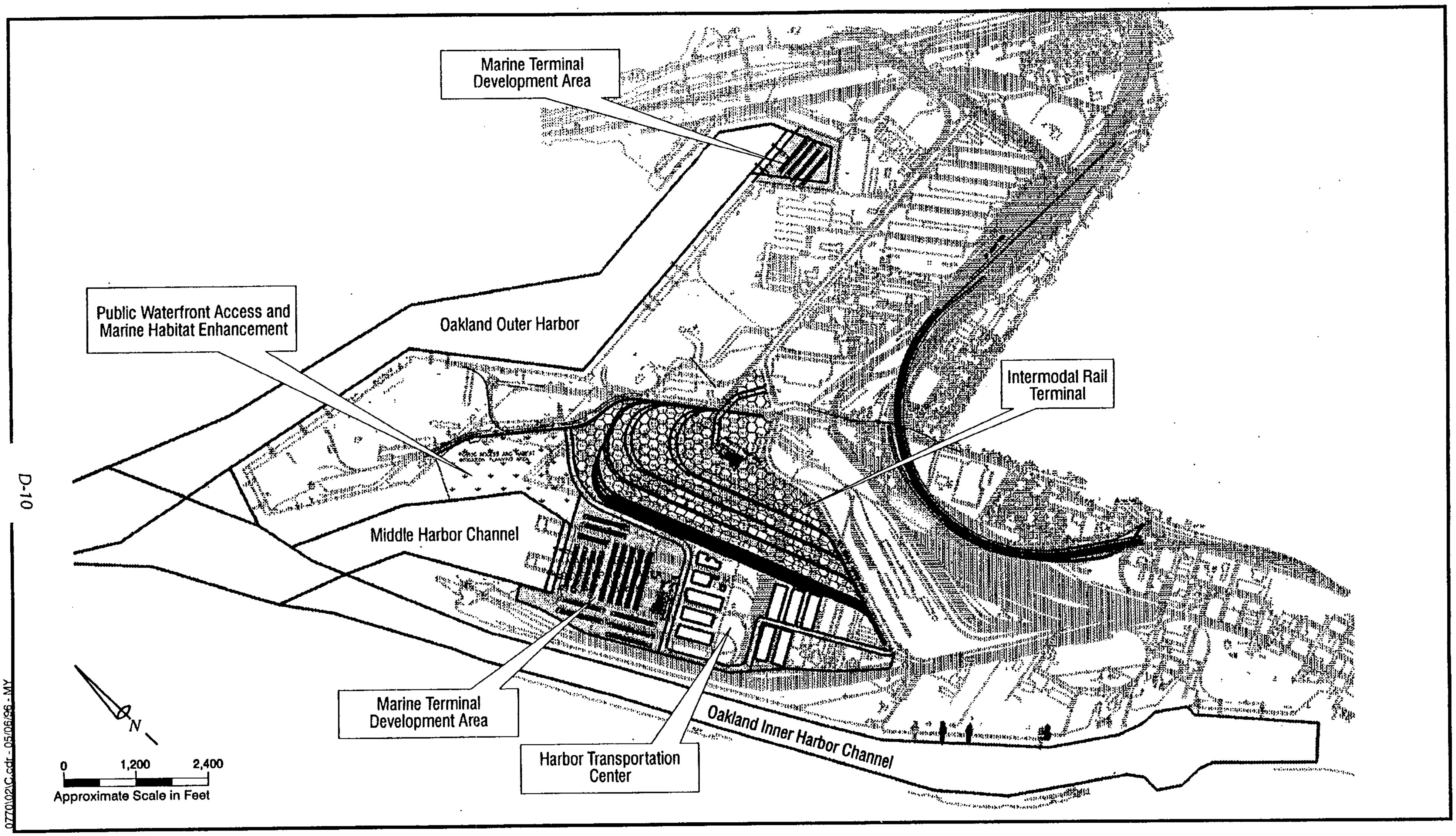


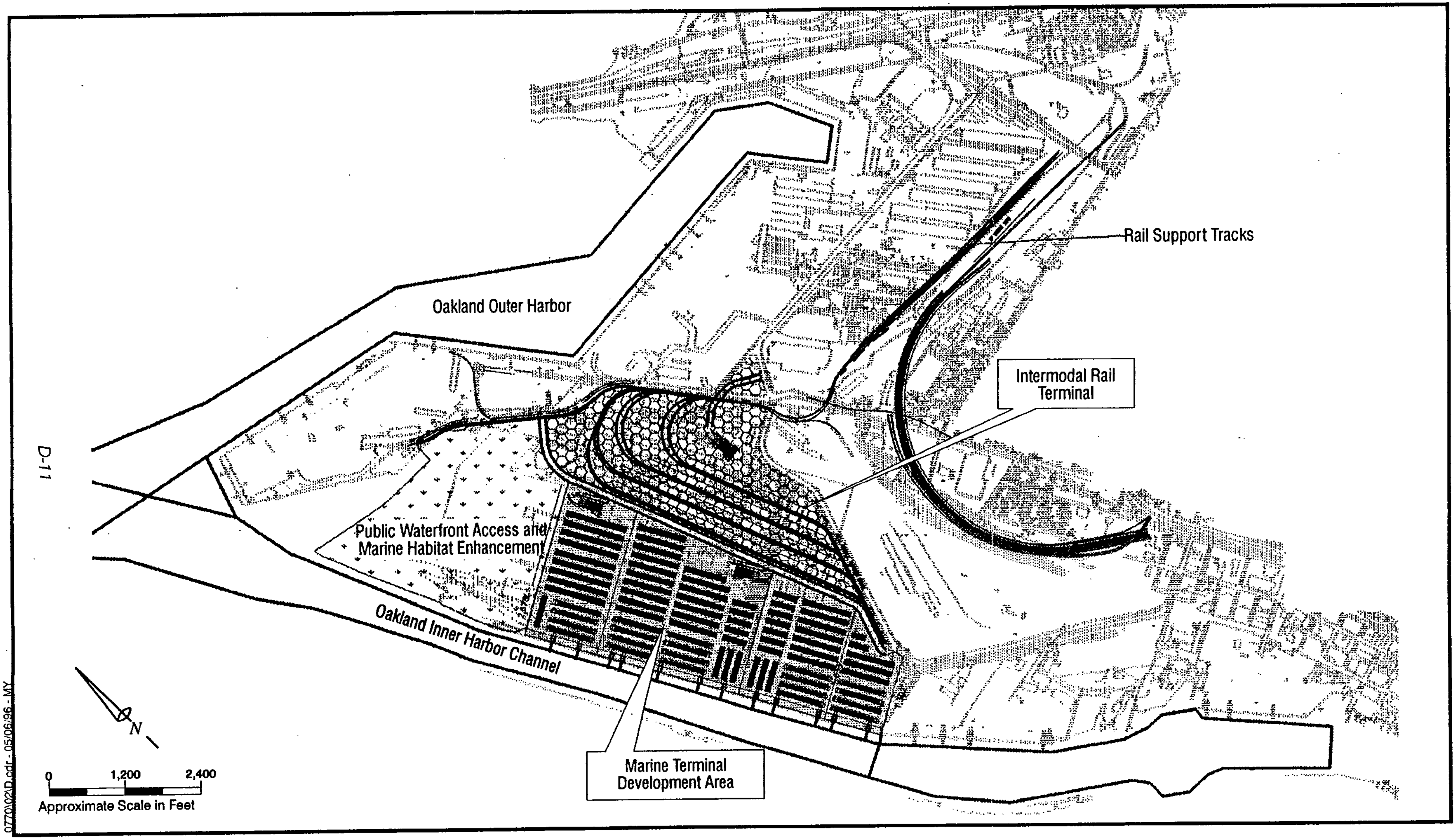
Vision 2000 Maritime Development/ FISCO Alternatives

Minimum Marine Terminal/Minimum Rail Terminal Alternative

(Alternative B)

Port of Oakland

Source: Port of Oakland, 1996



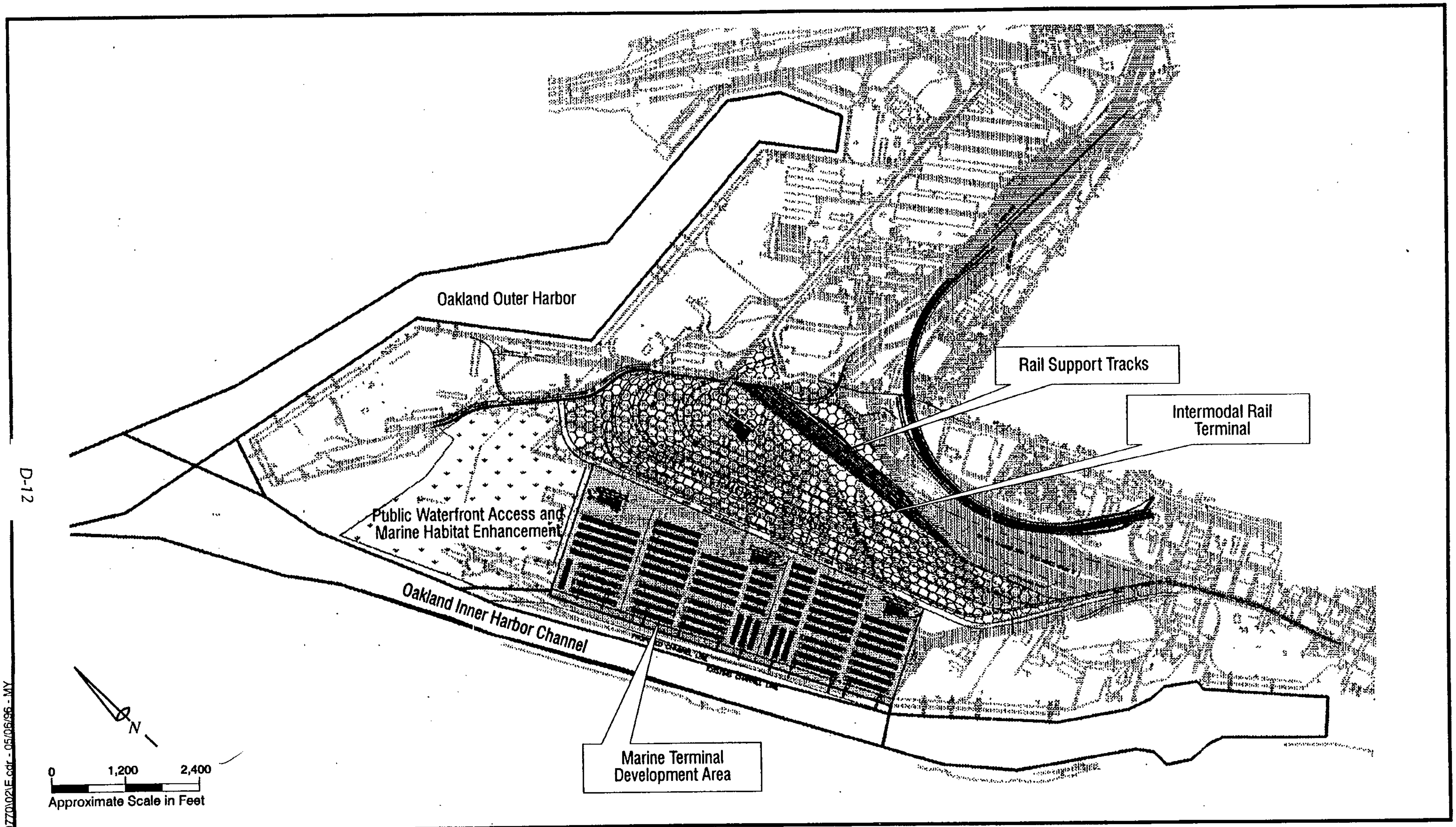
Vision 2000 Maritime Development/ FISCO Alternatives

Maximum Marine Terminal/Minimum Rail Terminal Alternative

(Alternative C)

Port of Oakland

Source: Port of Oakland, 1996



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Vision 2000 Maritime Development/ FISCO Alternatives

Reduced Fill Alternative

(Alternative D)

Port of Oakland

Source: Port of Oakland, 1996

[Federal Register: May 30, 1996 (Volume 61, Number 105)]
[Notices]
[Page 27056]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]

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[[Page 27056]]

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Intent To Prepare a Joint Environmental Impact Statement/Environmental Impact Report for the Proposed Disposal and Reuse of the Fleet and Industrial Supply Center Oakland, CA

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), the California Environmental Quality Act (CEQA), and Public Law 102-484 Section 2834, as amended by Public Law 104-106 Section 2867, the Department of the Navy, in association with the Port of Oakland, California, announces its intent to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed disposal and reuse of the Fleet and Industrial Supply Center, Oakland (FISCO) property and structures in Oakland, California. The Navy will be the lead agency for NEPA documentation and the Port of Oakland will be the lead agency for CEQA documentation. The Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the base closure process of 1995, directed the Navy to close FISCO.

FISCO is located approximately two miles west of the Oakland central business district, on the eastern shore of San Francisco Bay. FISCO consists of approximately 528 acres and has about 125 structures that support general supply operations, waterfront operations, and administration.

The EIS/EIR will address potential impacts to the environment that may result from the disposal of FISCO property and subsequent reuses. FISCO is within the planning jurisdiction of the Port of Oakland. The Port of Oakland Vision 2000 Program proposes development of an intermodal system of ship, railroad, and truck freight handling facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

The development of the Port of Oakland Vision 2000 Program is expected to require additional property outside of the FISCO boundary in order to meet the objectives of the Program. This joint EIS/EIR will provide a program level analysis supporting both the Navy NEPA requirements to describe potential environmental impacts associated with the property disposal at FISCO, and the Port of Oakland CEQA requirement to analyze environmental impacts of implementing the Vision 2000 Program.

The EIS/EIR will evaluate a ``No Action'' alternative and several reuse alternatives. The ``No Action'' alternative would result in the federal government indefinitely retaining ownership of FISCO property. Under the ``no action'' alternative the Navy would continue leasing property to the Port of Oakland under the existing 50 year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions. The reuse alternatives are expected to combine the common land use components of a railroad terminal, marine terminals, public waterfront access and marine habitat enhancement. As FISCO is within the Port of Oakland jurisdiction and is designated as a Port Priority use in the April 1996 San Francisco Bay Conservation and Development Commission and the Metropolitan Transportation Commission

Seaport Plan Update, alternatives would emphasize port-related activities. Revisions to these alternatives may be developed during the public scoping period. The EIS/EIR will evaluate the potential for environmental impacts to traffic conditions, air quality, biological resources, cultural resources, utilities, and other environmental issues identified through this scoping process.

ADDRESSES: Federal, state and local agencies, and interested individuals are invited to participate in the scoping process to determine the range of issues and reuse alternatives to be addressed. A public scoping meeting to receive oral and written comments will be held on Thursday, June 13, 1996, at 7:00 p.m., at the McClymonds High School auditorium, located at 2607 Myrtle Street (near 26th Street) in Oakland, California. In the interest of available time, each speaker will be asked to limit oral comments to five minutes. In addition, written comments may be submitted by July 1, 1996, to Mr. Gary J. Munekawa, Environmental Planning Branch, Code 185GM, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006, telephone (415) 244-3022, fax (415) 244-3737. For further information regarding the Port of Oakland Vision 2000 Program, please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Section, 530 Water Street, Oakland, California 94604, telephone (510) 272-1181, fax (510) 465-3755. If you need special assistance to participate in this meeting, please contact Mr. Munekawa at least 72 hours prior to the meeting.

Dated May 23, 1996
S.L. Haycock,
LCDR, JAGC, USN, Alternate Federal Register Liaison Officer.
[FR Doc. 96-13460 Filed 5-29-96; 8:45 am]
BILLING CODE 3810-FF-P

STATE OF CALIFORNIA

PETE WILSON, *Governor*

Governor's Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

DATE: June 4, 1996

TO: Reviewing Agencies

RE: DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY
SCH# 96062010

Attached for your comment is the Notice of Preparation for the DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY draft Environmental Impact Report (EIR).

Responsible agencies must transmit their concerns and comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

JAMES MCGRATH
PORT OF OAKLAND
530 WATER STREET
OAKLAND, CA 94607

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Kristen Derscheid at (916) 445-0613.

Sincerely,

Antero A. Rivasplata

ANTERO A. RIVASPLATA
Chief, State Clearinghouse

Attachments

cc: Lead Agency

NOP Distribution List

SCH# 96062010

S = sent by lead agency
X = sent by SCH

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[ ] OTHER: ______________

SCH 8/1/95

UNITED STATES NAVY

NEWS RELEASE

ENGINEERING FIELD ACTIVITY WEST
NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)
900 COMMODORE DRIVE • SAN BRUNO, CA 94066

FOR IMMEDIATE RELEASE
Release # 96-04

For more information contact
Jeff Young
Phone (415) 244-3041
Fax: (415) 244-3010

Navy and Port of Oakland to prepare FISCO Environmental Impact Statement

The United States Navy and the Port of Oakland will prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the environmental impacts of disposal and reuse of the Fleet Industrial and Supply Center, Oakland (FISCO).

The Navy will be the lead agency for National Environmental Policy Act (NEPA) documentation and the Port of Oakland will be the lead agency for California Environmental Quality Act (CEQA) documentation. The Defense Base Closure and Realignment Act of 1990, as implemented by the 1995 base closure process, directs the Navy to close FISCO.

The EIS/EIR will address potential impacts to the environment that may result from the conveyance of the FISCO property by the Navy and subsequent reuse of FISCO by the community.

FISCO is within the planning jurisdiction of the Port of Oakland and has been used as a Navy port supply and administrative facility. The Port of Oakland's "Vision 2000" program proposes development of an intermodal system of ship, railroad, and truck freight facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. Vision 2000 also includes development of public waterfront access and marine habitat enhancement. Development of the Vision 2000 program is expected to require additional property outside of the FISCO boundary in order to meet its objectives.

The EIS/EIR will examine the potential environmental impacts of four Vision 2000 Program alternatives. The "No Action Alternative," which would result in the federal government indefinitely retaining ownership of FISCO property, will also be evaluated. Under the No Action Alternative, the Navy would continue leasing property to the Port under the existing 50-year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions.

Environmental issues addressed in the EIS/EIR are expected to include land use, visual resources, socioeconomics, public services, cultural resources, biological resources, geology and soils, water resources, air quality, noise, traffic and transportation, utilities, and hazardous materials and waste.

The Draft EIS/EIR is expected to be published in early 1997. A public hearing and a 45-day review period will follow the publication and distribution of the Draft EIS/EIR.

A public hearing will be held on Thursday, June 13, 1996, at 7 p.m., at McClymonds High School, 2607 Myrtle Street, in Oakland. The purpose of this hearing is to receive written and verbal comments regarding the potential environmental impacts of disposal and reuse of FISCO. A brief presentation will precede the request for public comment. Navy and Port of Oakland representatives will be available at the hearing to receive comments from the public regarding issues of concern. It is important that federal, state, and local agencies and interested individuals take this opportunity to identify environmental concerns that should be addressed during the preparation of the EIS/EIR.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. To be most helpful, scoping comments should clearly describe specific issues or topics which the commentor believes the EIS/EIR should address.

The public is invited to submit written comments by July 1, 1996 to Gary Munekawa, Code 1852, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-2402, (415) 244-3022, Fax (415) 244-3737. For further information regarding the Port of Oakland Vision 2000 Program, contact Loretta Meyer, Port of Oakland, 530 Water Street, Oakland, California 94604-2064, telephone (510) 272-1181, fax (510) 465-3755.

UNITED STATES NAVY

FACT SHEET

ENGINEERING FIELD ACTIVITY WEST
NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)
900 COMMODORE DRIVE • SAN BRUNO, CA 94066

For more information contact
Jeff Young
Phone (415) 244-3041
Fax: (415) 244-3010

Site: Fleet Industrial Supply Center, Oakland (FISCO)

Location: In the vicinity of the Port of Oakland's Middle Harbor at the northwest mouth of the Oakland estuary.

Mission: FISCO (formerly called Naval Supply Center, Oakland), is the principal facility supporting Department of Defense activities in the Pacific Basin and is the Navy's largest west coast supply point. It's primary function is to provide support and supply services to fleet units and shore activities. In general, the facility has been used for storage and supply purposes. Very little manufacturing or industrial activity has occurred over the years.

Size: The installation encompasses approximately 529 acres and has about 125 structures.

Opened: The facility was established in 1941 to support the Navy during World War II.

Closure: September 1998

BRAC'd: BRAC 4, 1995

Status: Daily operations will cease at the base in September 1998. The installation will then be placed in a caretaker status, with the Navy's Engineering Field Activities West acting as the landlord, until the property is conveyed to the Port of Oakland. Special legislation that allows the Navy to convey the property directly to the Port of

Oakland. Approximately 134 acres of property is now being leased to the Port.

Cleanup: The California Environmental Protection Agency is the lead regulatory agency responsible for the cleanup. Several environmental investigations have been conducted between 1977 and the present time, with a total of 99 sites evaluated. Of those sites, 74 showed no potential impact to the environment or public health. The Navy will propose no cleanup action on 12 sites; 13 sites will be addressed in a Record of Decision (ROD). The ROD is expected to be completed by October 1997. Contamination, including Volatile Organic compounds and Total Petroleum hydrocarbons, has occurred in areas where paints, solvents, and hazardous materials were used and/or stored. Preliminary estimates place the cleanup costs at approximately $42,300,000.

NEWSPAPER ADVERTISEMENT

The following newspaper advertisement announcing the preparation of the Disposal and Reuse of FISCO/Vision 2000 Maritime Development EIS/EIR and the start of the public scoping process was published in the following papers:

San Francisco Chronicle - Sunday, June 2, 1996, and Monday June 3, 1996.

Oakland Tribune - Sunday, June 2, 1996, and Monday June 3, 1996.

Oakland Post - Sunday, June 2, 1996.

PUBLIC NOTICE

The United States Navy and the Port of Oakland announce their intent to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the environmental impacts of disposal and reuse of the Fleet Industrial and Supply Center, Oakland (FISCO) in Oakland, CA. The Navy will be the lead agency for National Environmental Policy Act (NEPA) documentation and the Port of Oakland will be the lead agency for California Environmental Quality Act (CEQA) documentation. The Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the 1995 base closure process, directs the Navy to close FISCO. The Navy has the authority to dispose of FISCO under Public Law 102-484, Section 2834, as amended by Public Law 104-106, Section 2867, in order to implement the 1995 base closure process decisions.

The EIS/EIR will address the potential impacts to the environment that may result from the disposal of the FISCO property by the Navy and subsequent reuse of FISCO. FISCO is within the planning jurisdiction of the Port of Oakland and has been used as a Navy port supply and administrative facility. The Port of Oakland's Vision 2000 Program proposes development of an intermodal system of ship, railroad, and truck freight facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement. Development of the Vision 2000 Program is also expected to require additional property outside of the FISCO boundary in order to meet the Program's objectives.

The EIS/EIR will examine the potential environmental impacts of four Vision 2000 Program alternatives. The No Action Alternative, which would result in the federal government indefinitely retaining ownership of FISCO property, will also be evaluated. Under the No Action Alternative, the Navy would continue leasing property to the Port under the existing 50-year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions. Probable environmental issues that will be addressed in the EIS/EIR include, but are not limited to, land use, visual resources, socioeconomics, public services, cultural resources, biological resources, geology and soils, water resources, air quality, noise, traffic and transportation, utilities, and hazardous materials and waste. The Draft EIS/EIR is due to be published in early 1997. A public hearing and a 45-day review period will follow the publication and distribution of the Draft EIS/EIR.

PUBLIC SCOPING HEARING

will be held

Thursday, June 13, 1996, at 7:00 p.m.

at the following address:

McCLYMONDS HIGH SCHOOL
2607 MYRTLE STREET
OAKLAND, CA

The purpose of this hearing is to receive written and verbal comments regarding the potential environmental impacts of the disposal and proposed reuse of FISCO. A brief presentation will precede the request for public comment. Navy and Port of Oakland representatives will be available at this hearing to receive comments from the public regarding issues of concern to the public. It is important that federal, state, and local agencies and interested individuals take this opportunity to identify environmental concerns that should be addressed during the preparation of the EIS/EIR.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. To be most helpful, scoping comments should clearly describe specific issues or topics which the commentor believes the EIS/EIR should address. Written statements must be received at the address below no later than July 1, 1996.

MR. GARY MUNEKAWA, CODE 1852GM
ENGINEERING FIELD ACTIVITY WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CA 94066-5006
Telephone (415) 244-3022
Fax (415) 244-3737

For further information regarding the Vision 2000 Program, contact Ms. Loretta Meyer, Port of Oakland, 530 Water Street, Oakland, California 94607, telephone (510) 272-1181, fax (510) 465-3755.

Table D-1
Scoping Summary

Commentor	Form	Issues
David Farrel, US Environmental Protection Agency, Region 9	Letter Dated 6/26/96	• Develop alternatives not related to the Vision 2000 Program. • Define all parameters (time, geographic area) relevant to the analysis. • Establish clear statement of purpose and need. • Include non-FISCO property part of Vision 2000 in setting section. • Include analysis of cumulative effects. • Develop "preferred" and "environmentally-preferred" alternatives. • Develop a preferred alternative that balances environmental quality and economic opportunity. • Describe nearby residential areas and potential impacts to these areas. • Describe impact on minority community and low-income population. • Present opportunities for the affected communities to provide input. • Identify specific potential mitigation measures. • Discuss the current air quality status, including: – air quality conditions, problems, and planning. – air quality impacts from proposed action. – conformity with State Implementation Plan. – mitigation measures. – project alternatives. • Identify existing traffic, circulation, and parking patterns. • Identify health, safety, and annoyance issues related to traffic. • Analyze reuse in context of relevant transportation changes. • Identify transit needs related to proposed action. • Work with regional partners to identify impacts from reuse. • Analyze potential future uses for the Oakland Army Base, if to be included as part of the Vision 2000 Program. • Identify existing and projected land use conflicts in West Oakland. • Identify dredging requirements associated with each alternative. • Identify justification for the amount of dredging required. • Characterize baseline conditions for wetlands, aquatic systems, estuaries, and other ecological habitats. • Include a mitigation plan that ensures no net loss of wetlands. • Comply with the following provisions of the Clean Water Act: – there is no practicable alternative. – will not contribute to the degradation of waters. – will not violate water quality standards, toxic-effluent standards, or jeopardize the continued existence of species or their habitats. – all steps are taken to minimize adverse impacts. • Discuss impacts on listed, protected, and endangered species. • Identify critical fisheries habitat. • Identify hazardous materials storage, disposal, contamination history. • Discuss pollution prevention, energy conservation, and waste minimization. • Address potential for adverse health impacts to fishermen. • Identify all archaeological, prehistoric, and historic resources. • Assess impacts to aesthetics, visual resources, or Bay access. • Identify noise contours associated with existing and proposed activities. • Define baseline conditions. • Assess impacts by comparing future conditions to baseline conditions. • Define significance criteria.

Table D-1
Scoping Summary

Commentor	Form	Issues
Nicole Gauthier, US Army Corps of Engineers	Letter Dated 6/12/96	• Meet with Sacramento District to discuss reuse of the Oakland Army Base.
John Turner, State of California Department of Fish and Game	Letter Dated 6/25/96	• Identify and remediate hazardous waste. • Identify natural resources damages from hazardous materials. • Identify impacts on sensitive biological habitat along the shoreline. • Identify impacts on sensitive terrestrial resources. • Develop mitigation for loss of fish and wildlife resources..
Joe Browne, State of California Department of Transportation	Letter Dated 6/13/96	• Complete traffic study to determine I-880 and I-980 impacts including: – trip generation, distribution, and management. – average daily traffic, peak hour volumes, and cumulative traffic. – highway and non-highway improvements and services mitigations. – mitigation financing and scheduling. – mitigation implementation and monitoring responsibilities.
Liz Black, Historical Resources Information System	Letter Dated 7/3/96	• Recommend conducting a study to determine if the project area has any unrecorded archaeological sites. • Stop work in any area where archaeological resources are discovered.
Marc Roddin, Metropolitan Transportation Commission	Letter Dated 6/4/96	• Consider various channel dredging levels to support marine terminals. • Identify assumptions and methodology for traffic circulation analysis. • Document transportation model used. • Document trip generation, distribution, modal split, and assignment equations in model. • Include only fully funded projects in transportation network. • Provide data supporting the choice of travel behavior assumptions. • Allow for a worst case analysis of traffic impacts. • Present traffic information for interstate, arteries, and internal roads. • Include volume to capacity ratios and level of service with implementation only of fully funded transportation projects. • Discuss unfunded or partly funded transportation projects as project mitigation, with potential funding sources and budgets identified. • Use 2010 or 2015 as analysis year. • Evaluate reducing demand for single occupant automobile. • Evaluate as a partial reuse an overnight truck service complex.
Linda Scourtis, San Francisco Bay Conservation and Development Commission	Letter Dated 7/1/96	• Describe BCDC consistency determination authority. • Develop reuse that requires the least possible amount of Bay fill. • BCDC supports Alternative D; removes the greatest amount of fill. • Indicate fill requirement for marine terminal near Berth 10. • Detail new and additional maintenance dredging requirements. • Clarify the increased dredging requirement necessary to create Middle Harbor Channel. • Follow State Water Resources Control Board and Regional Water Quality Control Board policies on water quality. • Maintain/increase bay marsh, mudflat, and water surface area/volume. • Protect marshes and mudflats. • Protect fish and wildlife habitats. • Improve public access to maximum extent possible. • Include appropriate mitigation measures.

Table D-1
Scoping Summary

Commentor	Form	Issues
Brian Wiese, San Francisco Bay Trail, Association of Bay Area Governments	Letter Dated 6/25/96	• Address potential opportunities for shoreline public access and the provision of safe access to and on the site for recreational users and commuting cyclists.
Jean Hart, Alameda County Congestion Management Agency	Letter Dated 6/20/96	• Submit land use data to conduct a CMA-traffic analysis of the project. • Include a financial program in transportation mitigation measures. • Consider participation in the I-880 corridor transportation planning process as a general mitigation measure for transportation impacts. • Address all impacts on the metropolitan transportation system. • Analyze roadway level of service standards for 2000 and 2005. • Satisfy CMA criteria with transportation mitigation measures. • Analyze transit level of service standards, including transit funding as a mitigation measure. • Consider impact on transportation demand management measures. • Discuss funding sources for roadway and transit improvements.
Colette Meunier, City of Alameda	Letter Dated 6/28/96	• Discuss impact of project on traffic through Webster and Posey Tubes. • Discuss impact of project on increasing truck traffic on I-880 and I-980. • Discuss impact of project on Sacramento/San Jose railroad corridor. • Discuss impact of project on Alameda/Oakland Ferry. • Discuss impact on shoreline access and Bay Trail. • Discuss impact on transportation corridor providing regional access between NAS Alameda and I-880 and I-980. • Evaluate suitability of site to accommodate the projected regional need for container port facilities. • Discuss impact on air cargo operations at Oakland Airport.
Kay Miller, Alameda Reuse Redevelopment Authority	Letter Dated 7/1/96	• Concur with comments made by City of Alameda in June 28 letter. • Evaluate visual impact, especially on proposed NAS Alameda reuse. • Evaluate cumulative impacts with NAS Alameda reuse plan.
Various Signatories, Secondary Materials Industries Working Group	Letter Dated 6/24/96	• Analyze impacts of removing structures. • Analyze waste generated during new construction. • Reuse entire buildings if possible; if not, salvage reusable portions and recycle unusable portions of the structure. • Dispose of, properly, materials containing asbestos or lead-based paint. • Do not burn or mulch wood. • Deconstruction has beneficial socioeconomic impacts. • Examine the cumulative impact of structure disposal on area landfills. • Deconstruction can save historically significant portions of buildings or provide replacement parts for other buildings.
Jean Matsuura, League of Women Voters of the Bay Area	Letter Dated 6/30/96	• Provide an alternative that does not require placing any fill. • Present impacts to natural resources, especially wetlands, eelgrass beds, and endangered species, such as least terns and brown pelicans.
Arthur Feinstein, Golden Gate Audubon Society	Letter Dated 6/28/96	• Consider impacts on California least tern. • Consider impacts to eelgrass beds, if any. • Present a "no fill" alternative.
William Coburn, Oakland Heritage Alliance	Letter Dated 6/20/96	• Include one alternative that minimizes the effect on historic structures. • Consider an alternative that would retain all or a portion of the historic resources.

Table D-1
Scoping Summary

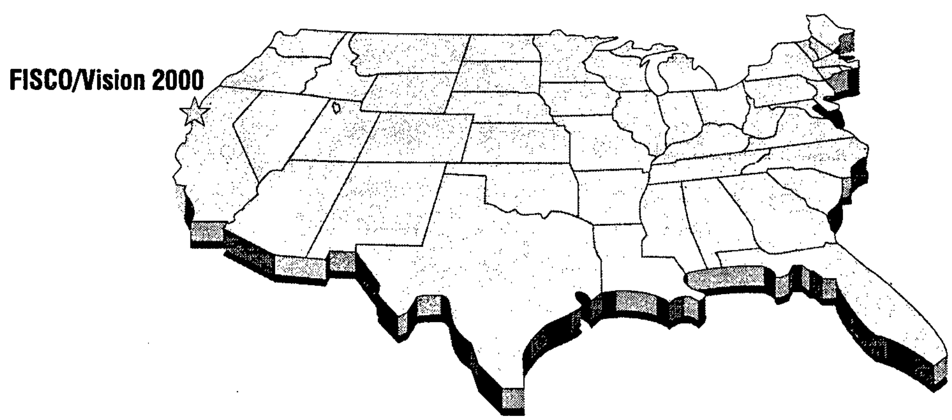
Commentor	Form	Issues
Judith Bloom	Verbal Comment on 6/13/96	• Learned of the meeting at 5:00 p.m. on the day of the meeting. • Make Vision 2000 materials clearer. • Include explanation of alternatives impact on community concerns. • Create an electric truck plant to support Port activities. • Poor attendance at hearing because public lost faith in Navy promises. • Wants to understand how the joint intermodal terminal would work and concluded that such a terminal might even mitigate truck effects.
George Burtt	Verbal Comment on 6/13/96	• Attendance at the hearing was too low. • Vision 2000 is a project that Oakland can be proud of. • Port's presentation and public information package is insufficient. • Port must communicate with citizens and businesses. • Vision 2000 will satisfy employment and warehouse space needs. • West Oakland Commerce Association endorses Vision 2000.
William Chorneau	Verbal Comment on 6/13/96	• NEPA process could be challenged based on inadequate outreach. • Received the meeting notice only a week ago and did not have enough time to mobilize concerned citizens. • Recommended that the meeting information be printed on the first page of the scoping mailing. • Requested public access in the Port's proposal. • Outlined a list of components that should be presented in the EIS/EIR, all of which are required features of NEPA and CEQA, and are presented in his letter on behalf of the Coalition for West Oakland Revitalization.
William Chorneau, Coalition for West Oakland Revitalization	Letter Dated 6/27/96	• Identify different lead agency; perhaps Oakland Office of Economic Development. • Schedule second hearing; first notice of hearing was inadequate. • Expand scope to include issues important to entities other than Port. • Describe the "no project" alternative in a detailed manner. • Include an alternative that does not include the nonreversionary land. • Include alternatives that provide more public access and marine habitat enhancement by decreasing the size of rail or marine terminals. • Identify mitigation measures for impacts, especially socioeconomic. • Present setting, impacts, and mitigation in one section. • Setting, as stated in CEQA, should describe the study area "as it exists before the commencement of the project." • Present setting from site, local, and regional perspective. • Separate impacts related to construction and operation. • Demonstrate how thresholds of significance are identified. • Show level of significance for each impact before and after mitigation. • Cover employment generation, housing, public access and wildlife habitat, transportation, public services, cumulative impacts and growth inducing impacts, air quality, water, noise, visual, and land use. • Address the following additional mitigations: – additional shoreline access. – non-polluting alternatives to internal combustion engines. – buffer zone of trees. – truck emission standards. – adequate on-site truck parking – Port funding for a new West Oakland park.

Table D-1
Scoping Summary

Commentor	Form	Issues
Margaret Gordon	Verbal Comment on 6/13/96	• Public outreach process was not adequately conducted. • Hearing conflicted with other community meetings. • Proposed a door-to-door outreach program. • No provisions for nonprofits to acquire FISCO property. • Port and City formed a partnership without involving citizens.
Harold Logwood	Verbal Comment on 6/13/96	• Received letter; saw public notices in both Oakland newspapers. • Navy made a good effort to inform the public of FISCO disposal. • Applauded the Navy for initiating a collaborative effort. • Asked that the Navy not be alarmed by the poor attendance but to continue its efforts to keep the community involved.
Nancy Nadel	Letter Dated 6/10/96 and read by Ellen Parkinson on 6/13/96	• Include original documents describing land transfer from City to Navy. • Because there was no public involvement in amending PL 102-484, alternatives that do not include nonreversionary land should be developed. These alternatives should attract businesses that: (1) create more jobs than proposed Port alternatives; (2) benefit from close proximity to the Port; (3) use recycled materials; (4) conserve air, water, and energy; (5) do not create land fill waste; (6) promote diversity; and (7) ensure minimal negative environmental impact. • Explore the following mitigations: (1) give West Oakland residents first priority for new jobs; (2) establish a community task force for traffic circulation issues; (3) establish emission standards for trucks at the Port and have trucks indicate compliance with standards by displaying an easily recognizable sticker; (4) provide compulsory training for truck drivers on the dangers of diesel emissions; (5) develop a systems of fines for trucks not complying with emission standards; (6) plant a tree buffer zone between Port and neighborhood; (7) install air monitors; (8) provide funding for creation and maintenance of a new West Oakland park; (9) provide free truck parking away from West Oakland communities; (10) phase-in non diesel alternatives; (11) provide "no truck parking" signs in West Oakland neighborhoods and develop an enforcement program for mitigations needing enforcement; and (12) provide additional shoreline access.
Ellen Parkinson	Verbal Comment on 6/13/96	• Supports shoreline park as part of Vision 2000. • Do not forget the youth in the community. • Proposed a large fishing pier, a nine hole golf course, an Olympic-sized swimming pool, a bowling alley, and a skating rink. • Emphasized need for housing and jobs. • Concerned about air pollution and street congestion. • Design a route from Port to interstate not through neighborhoods.
Roger Schmidt	Verbal Comment on 6/13/96	• Supports Port and its contributions to improvements in the area. • Requested improved access to the 7th Street Fishing Pier. • Presented some of the suggestions developed during the waterfront charette, such as turning Middle Harbor into a small boat harbor; creating wetlands; extending the Bay Trail to this area; providing access to the area with a light rail system; using fill from dredging operations to expand canals to make breakwaters or create wetlands; and employing former navy staff in the recreational areas.
John Geddie	Letter Dated 6/13/96	• Wishes to be included on the mailing list to receive the EIS/EIR.

Table D-1
Scoping Summary

Commentor	Form	Issues
Andrea Dawson, Acumen Building Enterprise	Letter Dated 6/11/96	• Wishes to be included on the mailing list to receive the EIS/EIR.



APPENDIX E
REGULATORY CONSIDERATIONS

Appendix E
Regulatory Considerations

E.1. LAND USE

This section identifies land use plans and regulations that affect land use of the site. This includes the Port of Oakland Business and Policy Plan, the City of Oakland Policy Plan, the BCDC and MTC San Francisco Bay Area Seaport Plan, the Airport Land Use Commission (ALUC) of Alameda County Regulations, and the Coastal Zone Management Act (CZMA) regulations.

E.1.1 Port of Oakland Jurisdiction

Under the Charter of the City of Oakland, the Board of Port Commissioners is vested with the complete and exclusive power and duty, for and on behalf of the City of Oakland within the Port area, to exercise regulatory jurisdiction over land uses and other activities related to the Port of Oakland and to take charge and control of all rights and interests of the City in land and water areas (such as FISCO property). FISCO is within the Port area. Under the City Charter, the Board consists of seven Oakland residents appointed for four-year staggered terms by the Oakland City Council upon nomination by the City Mayor. Under the City Charter, the Board's power is subject to the requirement that it develop and use land in the Port area for a purpose in conformity with the City's General Plan. Most of the Port area is subject to the use restrictions of state legislative trust grants to the City of Oakland, which require uses consistent with statewide commerce, navigation and fisheries (Clark, T., August 14, 1996, personal communication).

Most of the Port area consists of land and water areas owned by the City of Oakland and administered by the Board. Most of the City-owned land in the Port Area is leased by the Board to others, with conditions and requirements governed by the relevant lease. With some exceptions, for City-owned land in the Port area, the Board approves only uses related to aviation, maritime, or other commercial uses of statewide import. If the land is owned by third parties, then the Board only approves uses that do not interfere or are not inconsistent with other aviation,

maritime, or commercial uses of City-owned property in Port Area (Clark, T., August 14, 1996, personal communication).

In 1968, a master development plan, commonly referred to as the Shoreline Plan, was adopted by the Port Commissioners by resolution on November 4, 1968, and was amended in 1969 to incorporate the plan and policies into the City of Oakland Comprehensive Plan (Clark, T., August 14, 1996, personal communication). In general, the Port land uses are consistent with the policies of the City of Oakland.

E.1.2 City of Oakland Policy Plan

The City of Oakland Comprehensive Plan serves as the city's general plan. The city is in the process of updating the Comprehensive Plan. Comprehensive Plan policies help set the direction for land use designations, zoning districts, and development standards. The project site is designated for industrial use (Brady and Associates 1994).

The Oakland Policy Plan, a major component of the city's Comprehensive Plan, is the city council's statement of basic goals and policies, and guides its decisions on specific projects and actions. It also guides the actions and programs of city departments and agencies and assists citizens in participating in the policy-making process. Because the Port proposals for reuse of the project site should be consistent with the Oakland policy plan, the following policies should be considered (City of Oakland 1980):

E.1.2.1 General Considerations

Policy on Land Use Decision-making. The applicable policies state "In deciding on major land use issues, the City will seek to consider the full range of direct and indirect economic, social, physical, environmental, and public service factors involved, giving special attention to possible impacts on lower income persons, the elderly, or members of minority groups." And "In considering those land use questions which mostly affect a particular neighborhood or other area, the City will give substantial weight to the opinions of the local citizens."

Policy on Land Use Relating to the Natural Setting. The applicable policies state "Bay fill should be undertaken only upon clear and convincing evidence that its benefits will outweigh its resulting environmental and other costs." And " In the development of shoreline areas, every reasonable effort should be made to provide attractive public access to the water-edge."

Policy on Land Use Relating to Noise. The applicable policy states "To the extent compatible with noise levels and other environmental factors, the intensity of development at each point in the city should be related to the degree of accessibility there."

Policy on Land Use Relating to Urban Design and Preservation. The applicable policy states "Every effort should be made to preserve those older buildings, other

physical features, sites, and areas which have significant historical, architectural, or other special interest or value."

Policies on Land Use Regulations, Mixture, and Transition. The applicable policies state "The City will employ zoning or other land use regulations to ensure that land uses are compatible with their surroundings and to promote appropriate design and on-site conditions for residents or other users." And "The City will see that the applicable land use regulations are compatible with particular desired functions and character, and where appropriate provide for an orderly transition of use type or density over time." And "In areas which now contain a significant mixture of housing and industries, special steps should be taken to mitigate conflicts between these uses."

E.1.2.2 Commercial and Industrial Uses

General Policies. The applicable policies state "The environmental quality of Oakland's commercial and industrial areas should be protected and in many cases greatly improved. Amenities such as street trees and plazas should be added where appropriate to make these areas more desirable shopping or working environments." And "Commercial and industrial areas should have adequate parking and loading facilities."

Policies on Industrial Areas. The applicable policies state "When appropriate, rehabilitation in the form of structural repairs, modernization, improvement, or conversion of buildings, or other facilities, will be financially aided by the City to improve the environmental quality, efficiency, and market potential of industrial areas." And "If the sites of existing military, transportation, or utility uses within the industrial belt become available for reuse in the future, they should generally be used for transportation or, in suitable locations, manufacturing or wholesaling. Special consideration should be given to possible uses that would involve large numbers of jobs or big contributions to the City's tax base." and "Marine and air terminal capacity should be developed with city, regional, and state-wide benefits." and "Industrial areas should be developed and used in such a manner that they do not harm adjacent residential areas."

E.1.2.3 Civic and Open Space Uses

Policies on Civic and Open Space Uses. The applicable policies state "Efforts should be made to increase the total acreage of public parks and recreation areas within the city limits, exclusive of facilities at schools, colleges, and universities, to at least 10 acres for each 1,000 of Oakland's population."

E.1.3 BCDC/MTC San Francisco Bay Area Seaport Plan

The San Francisco Bay Area Seaport Plan is the product of a cooperative planning effort of the Bay Conservation and Development Commission (BCDC) and the Metropolitan Transportation Commission (MTC). The Seaport Plan constitutes the maritime element of MTC's Regional Transportation Plan and BCDC's San Francisco Bay Plan. The Seaport Plan employs land use designations and

enforceable policies that MTC and BCDC use in their funding and regulatory decisions and that local governments use in their land use and regulatory decisions. Areas determined to be necessary for future port development are designated as port priority use areas and are reserved for port-related and other uses that will not impede development of the sites for port purposes. Port priority use areas include marine terminals and directly-related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses, including trucking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, employee parking, and marine services. Within port use areas, marine terminals are identified, and these sites are reserved specifically for cargo handling operations (BCDC 1996).

The Seaport Plan is being revised to include the FISCO site. MTC has prepared an update that suggests designating the FISCO site as a port priority use area, declaring, "If and when not needed by the Navy, should be developed for port and related industrial uses." The proximity of FISCO to Port of Oakland and railyard facilities makes its shoreline a prime candidate for development as a major seaport facility. The emphasis should be on developing sites in the Oakland Inner Harbor. The update evaluated the FISCO site based on the criteria listed in Table E-1 (MTC 1996).

Table E-1
FISCO Seaport Use Evaluation

Rating	Criteria
Excellent	Compatibility with surrounding land uses
Excellent	Land access to freeways and railyards
Fair	Environmental conditions, especially bay fill requirements
Excellent	Availability of a local sponsor to plan, finance, and manage port
Excellent	Good infrastructure, such as warehouses, truck terminals, and railyards
Excellent	Available land for berth development and freight storage and movement
Excellent	Access by a significant portion of modern fully-loaded container vessels

Source: MTC 1996

E.1.4 Airport Land Use Commission of Alameda County Regulations

The proposed project site is outside the ALUC General Referral Area and safety zones (where no structures are permitted in parts of aircraft flight paths) for NAS Alameda. The proposed project location is also outside the NAS Alameda Air Installation Compatible Use Zone (AICUZ) safety zone. However, part of the property is within the AICUZ Accident Potential Zone 2. In this zone, port facilities, rail lines, and trucking would be permitted so long as the height of occupied structures does not exceed four stories and electronic equipment does not

interfere with flight operations. The maritime and transportation uses of the subject site conform with the ALUC Noise Impact Zone for NAS Alameda.

E.1.5 Coastal Zone Management Act Regulations

The federal Coastal Zone Management Act requires that federal actions be consistent to the maximum extent practicable with federally approved state coastal plans. The San Francisco Bay Plan and Bay Area Seaport Plan are the local coastal plans for the San Francisco Bay. The Navy will comply with any applicable requirements of the Coastal Zone Management Act prior to conveyance of FISCO property.

E.2. Cultural Resources

The following is a brief summary of relevant plans, policies, and regulations governing cultural resources.

E.2.1 Federal Laws

Pursuant to the regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Navy is the lead federal agency for the disposal of FISCO. Section 106 of NHPA (16 USC 470f), as amended, and its implementing regulations (36 CFR 800), require federal agencies to consider the effects of their actions on properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). It also requires that agencies provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on actions that will directly or indirectly affect National Register or eligible properties. Generally, a project that will have a "substantial adverse change" on a NRHP-eligible property is regarded as having a significant adverse effect on the environment. The criteria for evaluating NRHP eligibility, the relative significance, of cultural resources are found in 36 CFR 60.4.

Additional responsibilities also are placed on the activity commander or commanding officer pursuant to cultural resources requirements of DOD and the Department of the Navy (DOD Directive 4710.1 of 21 June 1984, Archeological and Historic Resources Management; Department of the Navy OPNAVINST 5090.1B, Historic and Archeological Resources Protection, 1 November 1994, Chapter 23).

E.2.2 State Laws

The principal state law relating to the preservation of historical and archeological properties is that of Appendices G and K of CEQA. CEQA mandates that significant effects to important cultural resources be determined during the project planning stage. Under this law, cultural resources include both prehistoric or historical archeological sites, as well as paleontological resources or properties of historic, cultural, or architectural significance to a community or ethnic or social group.

In addition to CEQA, the California Register Act of 1992, codified in Section 5020 and Section 21083 and 21084 of the Public Resources Code, offers specific guidance for the protection of archeological resources. The California Register of Historical Resources is a listing of significant historical resources in the state, similar to the NRHP at the national level. NRHP-listed or eligible properties are automatically listed in the California Register; therefore, the Navy Supply Center, Oakland Historic District, the Oakland Army Base Historic District, and the Southern Pacific West Oakland Shops Historic District are automatically included within the California Register. PRC 21084 of CEQA provides instructions on the treatment of projects that may result in a "substantial adverse change" to historical properties. Generally, a project that will have a "substantial adverse change" on a California Register property is regarded as having the potential for a significant effect on the environment.

E.3. VISUAL RESOURCES

The following is a brief summary of relevant plans, policies, and regulations governing visual and scenic resources.

E.3.1 City of Oakland Comprehensive Plan

The City of Oakland Comprehensive Plan contains policies in the Land Use Element and Scenic Corridor Element related to visual resources. The policies relevant to the proposed project are as follows:

E.3.1.1 Land Use Element

Policies on Urban Design and Preservation. Policy 1: The city will pursue a continuing comprehensive process of urban design to seize opportunities as they occur and direct physical changes toward a more efficient, more livable, more beautiful, and more dramatic urban environment.

Policy 2: The city will see that all public facilities ... form in the aggregate a logical visible framework that organizes and stimulates private development.

Policy 4: Every effort should be made to preserve those older buildings, other physical features, sites, and areas that have significant historical, architectural, or other special interest or value.

Policies Relating to the Natural Setting. Policy 1: Urban development wherever it occurs should be related sensitively to the natural setting, with the scale and intensity of development in each case bearing a reasonable relationship to the physical characteristics of the site.

E.3.1.2 Open Space, Conservation, and Recreation Element

The Draft Open Space, Conservation and Recreation element of the Oakland General Plan contains policies related to aesthetics and visual resources. Policy OS-2.5, Urban Park Acquisition Criteria, is to increase the amount of urban parkland, placing a priority on land with visual significance. Policy OS-3.2, Military Base

Open Space, calls for designating undeveloped areas with high natural resource or scenic value as Resource Conservation Areas.

E.3.2 BCDC San Francisco Bay Plan

The BCDC Bay Plan contains policies regarding appearance, design, and scenic views, as follows:

Policy 1: To enhance the visual quality of development around the bay and to take maximum advantage of the attractive setting it provides, the shores of the bay should be developed in accordance with the Public Access Design Guidelines and the General Development Guide.

Policy 3: In some areas, a small amount of fill may be allowed if the fill is necessary— and is the minimum absolutely required— to develop the project in accordance with the commission's design recommendations.

Policy 5: To enhance the maritime atmosphere of the Bay Area, ports should be designed, whenever feasible, to permit public access and viewing of port activities by means of (a) view points (e.g., piers, platforms, or towers) and restaurants that would not interfere with port operations and (b) openings between buildings and other site designs that permit views from nearby roads.

Policy 14: Views of the bay from vista points, from roads, and from other areas should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water.

Policy 15: Vista points should be provided in the general locations indicated in the plan maps. Access to vista points should be provided by walkways, trails, or other appropriate means and would connect to the nearest public thoroughfare where parking or public transportation is available. In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.

The San Francisco Bay Plan Map for the project site shows a West Basin of the Jack London Square Marina adjacent to the Howard Terminal, and states that at Jack London Square continuous public access should be provided along the Estuary to the Lake Merritt Channel.

E.4. BIOLOGICAL RESOURCES

The following is a brief summary of relevant plans, policies, and regulations governing biological resources.

E.4.1 Rivers and Harbors Act of 1899 (Section 10)

The US Army Corps of Engineers regulates impacts to navigable waters, making the excavation from or deposition of material into those waters subject to regulation. The Rivers and Harbors Act of 1899 (Section 10) includes the building

of structures in, over, or under these waters. A permit must be obtained from the Corps by the Port of Oakland before activities, such as filling, dredging, or construction, could begin in the waters around the project site.

E.4.2 Clean Water Act

The Clean Water Act was enacted to restore and protect the chemical, physical and biological integrity of the Nation's waters. Clean Water Act Section 401 certification requires that permitted projects comply with state water quality standards. The State establishes water quality standards under Section 301 of the Clean Water Act. State certification is a condition of the 401 certification process. State certification is covered under the Porter-Cologne Act.

Clean Water Act Section 404(B)(1) establishes guidelines for the discharge of dredged or fill material. The guidelines are established individually, or in concert with other activity to prevent adverse impacts to the ecosystem. The US Army Corps of Engineers must provide an opportunity for public comment. The guidelines and policies are developed in conjunction with the Environmental Protection Agency (EPA).

E.4.3 Porter-Cologne Water Quality Control Act

The law established a comprehensive program for regulating state water quality and controlling pollution. The organizations responsible for implementing this law include the State Water Resources Control Board and the regional water quality control boards.

E.4.4 Federal Endangered Species Act

Federal law directs that all federal agencies and departments use their authority to preserve endangered and threatened species under the guidance of the Endangered Species Act (16 USC 1531 et seq.). Federal agencies are required to consult with the US Fish and Wildlife Service (USFWS), or US National Marine Fisheries Service (NMFS) for marine species, prior to undertaking actions that may affect endangered species. The biological opinion is normally issued after the USFWS reviews the draft environmental document. Federal agencies are prohibited from enacting activities that would jeopardize the continued existence of these species.

E.4.5 Fish and Wildlife Coordination Act of 1934 (amended in 1958)

The act provides that wildlife conservation receive equal consideration and be coordinated with other features of water resources development. Any federal agency permitting, licensing, or construction of a project involving impoundment, diversion, or deepening of the waters of any stream or other water body must first consult with the Department of Interior (USFWS) and the Department of Commerce (NMFS), as well as the state wildlife resource agency to prevent losses or damages to resources and develop and improve resources in connection with development projects. Recommendations of the Secretary of the Interior must include impacts of the project on wildlife, measures to mitigate or compensate for these impacts, and a description of project features recommended for wildlife

conservation and development. The 1958 amendments to the law authorized the Secretary of the Interior to provide public fishing areas and accept donations of land and funds.

E.4.6 Coastal Zone Management Act: (1972, amended in 1990)

The Costal Zone Management Act (CZMA) of 1972 and subsequent 1990 amendments (16 U.S.C. 1456 et seq.) act provides for coastal management programs by States. BCDC's coastal management program for the San Francisco Bay was approved in 1977 and is based on the McAteer-Petris Act, the Suisun Marsh Preservation Act of 1977, and the Bay Plan.. Federal agencies make consistency determinations regarding proposed federal activities including permits and licenses. BCDC can concur or object to a permit based on it's policies and laws.

E.4.7 California Endangered Species Act

California provides procedures similar to the federal Endangered Species Act for nonfederal projects under the California Endangered Species Act, California Fish and Game Code (Section 2090 et seq.). For example, the California Department of Fish and Game (CDFG) can adopt a federal biological opinion as a state biological opinion under California Fish and Game Code (Section 2095). Upon disposal of FISCO out of federal ownership, it would be subject to these state regulations.

E.5. WATER RESOURCES

Regulations relevant to water resources include the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region's Water Quality Control Plan for the San Francisco Bay Region (RWQCB 1986), and National Pollutant Discharge Elimination System (NPDES) permit requirements for Stormwater Pollution Prevention Programs (SWPPPs) and point source discharges. The US Army Corps of Engineers regulates disposal of dredged materials, as well as placement of fill. The BCDC also regulates bay fill pursuant to the McAteer-Petris Act. In addition, the City of Oakland participates in National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency (FEMA). Upon reuse, the project site would also need to be consistent with flood protection provisions of the Environmental Hazards Element of the City of Oakland's Comprehensive Plan (City of Oakland 1974).

E.5.1 Water Quality

Jurisdiction over water quality is established by the federal Clean Water Act and the state's Porter-Cologne Water Quality Control Act. The US EPA has delegated primary responsibility for water quality control to the California State Water Resources Control Board (SWRCB). This authority is implemented in the Bay Area by the San Francisco RWQCB. The SWRCB and RWQCB jurisdiction covers implementation of the NPDES permitting requirements for discharges from point (e.g., industrial outfall discharges) and nonpoint (e.g., stormwater runoff) sources of water pollutants. Pursuant to Section 319 of the Clean Water Act, the state has the lead role in identifying and controlling nonpoint sources of

pollution. The RWQCB implements the NPDES program through the issuance of permits for construction and industrial discharges.

The RWQCB also regulates water quality in accordance with state laws and policies identified in the San Francisco Basin Plan. This plan identifies beneficial uses of surface and ground waters, wetlands, and marshes and sets forth water quality objectives to protect the beneficial uses. Beneficial uses for central San Francisco Bay include industrial uses, processing, navigation, contact and noncontact recreation, fishing, commercial uses, wildlife habitat, species preservation, and fisheries habitat (RWQCB 1986, as amended). NPDES permit effluent discharge limitations are structured to achieve regional compliance with Basin Plan beneficial uses.

Urban runoff discharges are regulated under NPDES Permit Regulations for Stormwater Discharges, which are enforced by the RWQCB. Stormwater discharges relevant to the Port of Oakland are regulated in two categories, construction discharges and industrial discharges. The California SWRCB has issued a Statewide General Permit for Industrial Stormwater Discharges that covers non-point discharges from specific industries that apply and qualify for inclusion under the State General Permit. The General Permit does not include all discharges except for construction discharges. To be covered under the State's General Permit, dischargers must submit a Notice of Intent (NOI) to the Board.

At the Port, tenants with activities regulated under the General Permit submit individual NOIs to the SWRCB. The Port itself has not submitted a NOI for its marine terminals operations because the Port does not operate any activities regulated by the General Permit in the marine terminal area. In order to assist its tenants and others in complying with stormwater permit regulations, the Port has organized a working group to prepare a stormwater monitoring program. The Port also provides assistance to its tenants in the preparation of the required SWPPP as well as the application of best management practices (BMPs). Although the Port is developing the SWPPPs and BMPs for the marine terminals, the tenants are responsible for submitting NOIs to the SWRCB. No NOIs have been submitted for uses on the Port's recently leased potion of FISCO; however, NOIs for regulated uses on that property may be submitted in the near future (Herman, D., May 13, 1996, personal communication).

Construction activities at the project site that would result in the cumulative disturbance of over five acres of soil would be subject to measures required by the General Permit for Stormwater Discharges Associated with Construction Activities. Industrial wastewater discharges from point sources would be subject to RWQCB Waste Discharge Requirement permits.

FISCO currently complies with the Statewide General Permit for Industrial Stormwater Discharges through an NOI that covers the entire base as a single industrial site. The permit includes a SWPPP that includes existing and proposed

BMPs. The Navy has prepared a stormwater sampling and analysis program for review by the RWQCB and has been preparing its annual reports since 1992. As part of that program, water is tested twice annually between October and April; periodic inspections also are conducted (Wong, P., May 22, 1996, personal communication).

E.5.2 Fill and Dredging

The US Army Corps of Engineers has jurisdiction over certain structures or work in or affecting navigable waters of the US pursuant to section 10 of the Rivers and Harbors Act of 1899. The US Army Corps of Engineers also regulates discharge of dredge or fill materials pursuant to Section 404 of the Clean Water Act. The BCDC has regulatory authority over non-federal filling operations in the bay and inland within a 100-foot shoreline band from the line of high tide. The RWQCB regulates dredging and dredge material disposal as it relates to water quality. Future maintenance dredging also could be regulated under the Marine Protection, Research, and Sanctuaries Act to the extent that dredge materials are disposed of in the ocean.

US EPA, Region 9, US Army Corps of Engineers, San Francisco District, BCDC, RWQCB, and California SWRCB have been preparing a Long-term Management Strategy (LTMS) for the placement of dredged material in the San Francisco Bay Region. That study is intended to identify long-term solutions to the problem of regional dredge material disposal for a 50-year planning period. It is estimated that an average of 300 million cubic yards per year of dredge materials will require disposal through the planning period. The LTMS includes provisions for disposal, rehandling, and reuse of dredge material in both construction and fill activities. After the LTMS is adopted, the Port may elect to follow LTMS regional dredge disposal approaches or may identify its own dredge disposal site(s).

E.5.3 Flooding

Flood protection for nonfederal lands is administered by FEMA under the NFIP. Participating communities must implement specific flood plain management measures to reduce flood risks to new development. The necessary measures are developed on the basis of Flood Insurance Studies (FIS), which result in the preparation of Flood Insurance Rate Maps (FIRMs). Although FISCO is not under the NFIP, the City of Oakland is a participating community, and the site would be under the NFIP upon conveyance of jurisdiction to the Port. The most recent FIS and associated FIRMs prepared for the city did not include analysis of flood hazards within FISCO (FEMA 1982). The city's environmental hazard's element, flood hazard policies 1 and 3, provide relevant guidance regarding floodplain protection (City of Oakland 1974).

E.6. Geology and Soils

The following is a brief summary of relevant plans, policies, and regulations governing geology and soils.

E.6.1 State of California

The California Code of Regulations (CCR), Title 24, Part 2, also known as the California Building Code (CBC), contains the enforceable state building standards. These regulations are promulgated by the Division of the State Architect/Structural Safety Section, and the Office of Statewide Health Planning and Development. The California Building Standards Commission is responsible for coordinating all building standards in California. The City of Oakland Department of Public Works is responsible for enforcing these standards within the city.

The project site is located within seismic Zone 4, the highest seismic classification defined in the CBC. CBC seismic standards represent minimum requirements for new construction within Zone 4, a region in which the effective peak ground acceleration assumed in design calculations is 0.5g. In areas in which effective peak ground accelerations are likely to be greater than 0.5g, the minimum CBC requirements may not be adequate. The CBC defines two alternative methods for calculating design seismic forces— a static procedure and a dynamic procedure. The dynamic procedure allows for a site-specific determination of the structural design requirements, based on geologic, tectonic, seismologic, and soil characteristics associated with the site and is required for certain classes of structures.

The CBC (Section 1629A.2) requires that every structure have sufficient ductility and strength to undergo the displacement caused by the "upper bound earthquake" motion without collapse. The upper bound earthquake ground motion is defined as the motion having a 10 percent probability of being exceeded in a 100-year period or maximum level of motion that may ever be expected at the building site within the known geological framework.

Under the Alquist-Priolo Earthquake Fault Zoning Act, the California Division of Mines and Geology has delineated seismic zones that are deemed to be "sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep." The state geologist is also required to review continually new geologic and seismic data and to revise the earthquake fault zones or to delineate new zones based on new information. No active faults have been identified within the property boundaries of the project site. The nearest delineated active fault zone is the Hayward Fault, located approximately five miles east of the project site. The delineated San Andreas Fault is approximately 15 miles west of the site. The delineated Calaveras Fault is located approximately 15 miles to the east.

E.6.2 City of Oakland

The Health and Safety Element of the City of Oakland General Plan (1991) requires that a soils and geologic report be submitted to the Department of Public Works prior to issue of all building permits to evaluate the potential for lateral spreading, liquefaction, differential settlement, and other types of ground failures.

It requires all structures of three or more stories to be supported on pile foundations that penetrate Bay Mud deposits and to be anchored in firm noncompressible materials, unless geotechnical findings indicate a more appropriate design. It also provides for the identification and evaluation of existing structural hazards and abatement of those hazards to acceptable levels of risk.

E.6.3 Port of Oakland

The Port of Oakland has adopted wharf design criteria to be used in design, construction, reconstruction, or repair of all existing and future wharf structures, except in the event that current engineering practice requires adjustments or modification of the wharf design criteria (Port Wharf Design Guidelines Ordinance No. 2972). . The General Engineering Design Criteria include the following geotechnical standards:

1(d) A sufficiently deep cutoff wall or other means shall be provided along the back of the wharf to prevent erosion of yard materials by tidal, wave, or other action under the wharf.

1(e) The slope beneath the wharf shall be protected from erosion by placement of riprap or by other means, as recommended by a geotechnical consultant.

1(f) The dike or cut slope beneath the wharf shall be designed to withstand the same seismic forces as the wharf structure. It shall contain the soil behind the slope under the design earthquake loading.

1(g) Flexible connections shall be provided where utilities pass from the yard through the cutoff wall or other rigid structure at the back of the wharf.

2(c) The seismic loads shall be based on site response spectral curves developed by geotechnical consultants taking into account the effects of earthquakes on the two major faults in the vicinity of the wharf structure (San Andreas and Hayward) as well as other faults in the region.

E.6.4 Bay Conservation and Development Commission

The San Francisco Bay Plan (BCDC 1992) includes policies regarding the placement of fill for earthquake safety. Policy 1 states that the commission has appointed the Engineering Criteria Review Board, consisting of geologists, civil engineers specializing in soils engineering, structural engineers, and architects competent to and adequately empowered to (a) establish and revise safety criteria for bay fills and structures thereon; (b) review all except minor projects for the adequacy of their specific safety provisions and make recommendations concerning these provisions; (c) prescribe an inspection system to assure placement of fill according to approved designs; and (d) gather and make available performance data developed from specific projects. These activities would complement the functions of local building departments and local planning departments, none of which are presently staffed to provide soils inspections.

E.7. TRAFFIC AND CIRCULATION

The following is a brief summary of relevant plans, policies, and regulations governing traffic and circulation.

E.7.1 US Department of Transportation

The Federal Highway Administration is the agency of the Department of Transportation responsible for the federally-funded roadway system, including the interstate highway network and portions of the primary state highway network. Federal Highway Administration funding is provided through the Intermodal Surface Transportation Efficiency Act of 1991 for which this project (Vision 2000) qualifies. This act's legislation can be used to fund local transportation improvement projects, such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, and transit system upgrades.

E.7.2 California Department of Transportation

Caltrans is responsible for the planning, design, construction, and maintenance of all state highways. Caltrans jurisdictional interest would extend to improvements to roadways at the interchange ramps serving area freeways. Any federally funded transportation improvements would be subject to review by Caltrans staff and the California Transportation Commission.

E.7.3 Metropolitan Transportation Commission

The Metropolitan Transportation Commission is the regional organization responsible for prioritizing transportation projects in a Regional Transportation Improvement Program for federal and state funding. The process is based on evaluating each project for need, feasibility, and adherence to the Intermodal Surface Transportation Efficiency Act policies and congestion management program. The congestion management program requires that each jurisdiction identify existing and future transportation facilities that will operate below an acceptable service level and provide mitigation where future growth degrades that service level.

E.7.4 Alameda County Congestion Management Agency

The Alameda County Congestion Management Agency (CMA) is responsible for ensuring local government conformance with the congestion management plan, a seven-year program aimed at reducing traffic congestion. The CMA has review responsibility for proposed development projects that are expected to generate 100 more PM peak hour trips than otherwise would occur. The CMA reviews the adequacy of CEQA analyses and measures proposed to mitigate impacts. The CMA maintains a county-wide transportation model and has approval authority for the use of any local or subarea transportation models.

E.7.5 City of Oakland

The City has designated certain container truck routes that allow carriage of axle weights higher than typically allowed on other public streets without special

permits. Permitted container routes include 7th Street, Middle Harbor Road, Maritime Street and Third Street east of Middle Harbor Road.

The City of Oakland has placed a heavy truck (over 4.5 tons) restriction on I-580 between Grand Avenue and 106th Avenue. Truck traffic to and from the project site must use alternative roadways.

E.8. AIR QUALITY

The following is a brief summary of relevant plans, policies, and regulations governing air quality.

E.8.1 Federal Requirements

The federal Clean Air Act requires each state to develop, adopt, and implement a state implementation plan (SIP) to achieve, maintain, and enforce federal air quality standards throughout the state. These plans must be submitted to and approved by EPA. In California, the state implementation plan consists of separate elements for different regions of the state. SIP elements are generally developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated.

Local councils of governments and air pollution control districts have had the primary responsibility for developing and adopting the regional elements of the California SIP. In the San Francisco Bay region, SIP document preparation has been a coordinated effort involving three regional agencies: the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), and the Metropolitan Transportation Commission (MTC).

The federal Clean Air Act imposes deadlines for achieving the federal ambient air quality standards. The San Francisco Bay Area was recently reclassified from a moderate nonattainment area to an attainment/maintenance area for the federal ozone standard. The urbanized portions of the San Francisco Bay Area are presently categorized as moderate nonattainment areas for the federal carbon monoxide standards. The Bay Area is currently not classified for the federal PM_{10} standard.

The California Air Resources Board (CARB) believes that monitoring data demonstrate that the San Francisco Bay Area has achieved the federal carbon monoxide and PM_{10} standards, and has requested that redesignation to attainment status for both pollutants. Final EPA action on the carbon monoxide and PM_{10} redesignation requests is expected to occur within the next year.

E.8.2 State Requirements

The California Clean Air Act of 1988 requires air pollution control districts and air quality management districts to develop air quality management plans for meeting state ambient air quality standards for ozone, carbon monoxide, sulfur

dioxide and nitrogen dioxide. CARB is responsible for developing a plan for meeting state PM_{10} standards.

The California Clean Air Act does not set specific deadlines for achieving state air quality standards. Instead, attainment is required "as expeditiously as practicable", with various emission control program requirements based on the attainment status for ozone and carbon monoxide standards. The entire San Francisco Bay Area is classified as a moderate nonattainment area for the state ozone standard. The Bay Area is also classified as a nonattainment area for the state PM_{10} standard. The entire San Francisco Bay Area is currently classified as an attainment area for the state carbon monoxide standards.

Air pollution control programs were established in California prior to the enactment of federal requirements. Responsibility for air quality management programs in California is divided between CARB as the primary state air quality management agency and air pollution control districts as the primary local air quality management agencies. Federal Clean Air Act legislation in the 1970s resulted in a gradual merger of local and federal air quality programs, particularly industrial source air quality permit programs.

E.8.3 Air Quality Permits

Many types of industrial and commercial facilities require air quality permits for their equipment and operations. The BAAQMD has the primary air quality permit authority throughout the San Francisco Bay Area. Permit authority is derived from a combination of state and federal legislation, and can be categorized into construction or installation authorizations for individual pieces of equipment and permits for continued operation of equipment and facilities.

In general, federally required air quality permit programs have been integrated into the pre-existing state and local permit program. This results in a two-step permit process for new emission sources: an initial authority to construct (ATC) permit and a subsequent permit to operate (PTO).

E.8.4 Federal Clean Air Act Conformity Process

Section 176(c) of the Clean Air Act requires federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the Clean Air Act and with federally enforceable air quality management plans. EPA has promulgated separate rules that establish conformity analysis procedures for transportation-related actions and for other (general) federal agency actions. Transportation conformity requirements apply to actions funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA). General conformity requirements are potentially applicable to most other federal agency actions, but apply only to those aspects of an action that involve on-going federal agency responsibility and control over direct or indirect sources of air pollutant emissions. The conformity review process is intended to ensure that federal agency actions:

- Will not cause or contribute to new violations of any federal ambient air quality standards.

- Will not increase the frequency or severity of any existing violations of federal ambient air quality standards, and

- Will not delay the timely attainment of federal ambient air quality standards.

The transportation conformity rule applies primarily to highway construction projects and mass transit system projects. Harbor and railroad development projects generally are not subject to transportation conformity requirements (Tannehill, September 25, 1996, personal communication).

The EPA general conformity rule applies to most federal actions occurring in nonattainment or maintenance areas (such as the San Francisco Bay area) when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The federal nonattainment and maintenance pollutants subject to conformity analyses in the San Francisco Bay area include ozone precursors (reactive organic compounds and nitrogen oxides) and carbon monoxide. Applicable threshold levels for federal actions in the San Francisco Bay Area are 100 tons per year of reactive organic compounds, 100 tons per year of nitrogen oxides, and 100 tons per year of carbon monoxide.

Several categories of federal agency actions are exempted from the EPA general conformity rule because they are presumed to have federally controllable emissions below the threshold level. Transfers of ownership, interests, and titles in land, facilities, real property, or personal property to other public agencies or to private parties are among the actions exempted from conformity determination requirements. Lease arrangements, however, may be subject to the requirements of the conformity rule if the terms of the lease allow federal agencies to control the leasee's emission-generating activities.

E.9. NOISE

Various federal, state, and local agencies have developed guidelines for evaluating land use compatibility under different noise level ranges.

E.9.1 Federal Agency Guidelines

The federal Noise Control Act of 1972 (P. L. 92-574) established a requirement that all federal agencies must comply with applicable federal, state, interstate, and local noise control regulations. Federal agencies also were directed to administer their programs in a manner that promotes an environment free from noise that jeopardizes public health or welfare.

The Department of Defense evaluates the acceptability of noise levels at military installations according to three noise level zones— community noise equivalent

(CNEL) levels below 65 dB (Zone 1), CNEL levels of 65-75 dB (Zone 2), and CNEL levels above 75 dB (Zone 3). All land uses are considered compatible with Zone 1 noise levels. Industrial, office, and commercial uses are generally compatible with Zone 2 noise levels. Educational and residential land uses are not compatible with Zone 2 noise levels unless special acoustic treatments and designs are used to ensure acceptable interior noise levels. Residential and educational land uses are not compatible with Zone 3 noise levels. Industrial and manufacturing land uses may be acceptable in Zone 3 areas if special building designs and other measures are implemented.

A 1985 Air Installation Compatible Use Zone study update for NAS Alameda, located across the Oakland Inner Harbor from FISCO, identified areas of the FISCO, Port of Oakland, and Southern Pacific railyard properties as falling within Zone 2 (US Navy 1985). A small area in the southwest portion of the FISCO site fell within Zone 3 (US Navy 1985). Portions of Treasure Island, Yerba Buena Island, and the City of Oakland also fell within these boundaries. These zones were derived using 1983 NAS Alameda aircraft operations data. Since aircraft types and the number of operations have changed since that time, these zones may no longer be accurate. All military aircraft ceased operations at NAS Alameda in mid-1996; however, this base is still used periodically by commercial air craft.

E.9.2 State Agency Guidelines

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single-family structures. These standards require that hotels, motels, and multiple-unit dwellings be constructed so that outdoor noise sources will not cause interior noise levels to exceed an annual average CNEL value of 45 decibels with the windows closed.

The California Department of Health Services (1987) has published guidelines for the noise element of local general plans. These guidelines include a noise level/land use compatibility chart that categorizes various outdoor CNEL ranges into as many as four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable), depending on land use.

The state noise element guidelines chart identifies normally acceptable noise levels for low density residential uses as CNEL values below 60 decibels. The normally acceptable range for high density residential uses is identified as CNEL values below 65 decibels. For educational and medical facilities, CNEL values of 60 to 70 decibels are identified as conditionally acceptable. For office and commercial land uses, CNEL values of 67.5 to 77.5 decibels are categorized as conditionally acceptable.

E.9.3 Local Noise Policies

The noise element of the Oakland Comprehensive Plan contains a general policy to prevent or reduce exposure to excessive or annoying noise. Policy recommendations in the noise element urge a serious consideration of noise impacts in the planning and design of new or expanded roadways, with incorporation of noise mitigation, such as depressed roadway and noise barriers, where feasible. Other transportation policy recommendations include the use of roadway designs that discourage through traffic on local streets and neighborhood designs that encourage pedestrian and bicycle use. Land use policy recommendations include using buffer areas (including off-street parking, greenbelts, or general commercial areas) to protect residential areas from activities that produce excessive noise, odors, or traffic.

In June 1996 the City of Oakland adopted new noise ordinance provisions for the Oakland Municipal Code and Oakland Planning Code (Ordinances 11893, 11894, and 11895). Appendix K provides a simplified summary of noise limits contained in various sections of the Oakland noise ordinances. Different sections of the ordinances use different noise measurement units as formal limits. Some sections reference maximum allowable noise levels while others specify a pattern of noise level exceedance limits. Other sections set time limits for the operation of specified noise sources without specifying numerical noise limits. To the extent possible, the various provisions have been converted into equivalent average noise level values that are more easily summarized and compared within Figure K-1 in Appendix K.

E.10. UTILITIES

Navy and DOD regulations outlined in the Navy's Environmental and Natural Resource Program Manual govern the operation of ships at sea.

E.10.1 Water Distribution System

The Safe Drinking Water Act outlines sampling for lead and copper in drinking water. The Navy's Environmental and Natural Resource Program Manual identifies requirements and responsibilities for the protection of drinking water supplies at Naval installations.

E.10.2 Sanitary Sewer System

NPDES permit requirements apply to the discharge of wastewater to the sanitary sewer.

E.10.3 Stormwater System

The stormwater system operates under a NPDES, Statewide General Industrial Storm Water Discharge Permit. Specifics of the stormwater monitoring program are discussed in Section 3.7 (Water Resources). Stormwater is not treated prior to discharge to San Francisco Bay.

E.10.4 Solid Waste Management

The Solid Waste Disposal Act of 1965, as amended by the Resource Conservation and Recovery Act (RCRA) in 1976, requires that federal facilities comply with all federal, state, interstate and local requirements regarding the disposal and management of solid waste. RCRA establishes public safety and health standards for the disposal of solid waste, including requirements for landfill liners and leachate collection and treatment. RCRA and the Military Construction Codification Act of 1982 also provide for various means of recovering value from solid waste. Wastes may be recycled, reclaimed, used as a fuel supplement, or sold for profit.

California AB 939 requires California counties to divert 25 percent of their solid waste from landfills by 1995 and 50 percent by 2000. California Senate Bill (SB) 1223 establishes state programs designed to increase recycling and to encourage the development of commercial markets for recyclable materials. In general, the state places the burden of action and responsibility on the county to meet the state requirements.

Coast Guard regulations require privately-owned vessels to dispose of garbage three miles out to sea or contain it while in port. No plastics may be dumped at sea or in port.

E.11. HAZARDOUS MATERIALS AND WASTE

The following is a brief discussion of the major federal laws and regulations that apply to hazardous materials and waste at the project site.

E.11.1 Resource Conservation and Recovery Act

In response to the need to more closely regulate the ongoing handling, storage, transportation, and disposal of hazardous wastes, the US Congress passed RCRA in 1976. RCRA presents the federal regulations for the operation of hazardous waste storage, treatment, and disposal sites. Prior to RCRA, the state of California had passed the Hazardous Waste Control Law (HWCL) in 1972. This law provides regulations that equal or exceed the federal standards set by RCRA for hazardous waste management. The state of California was given "interim authorization" to implement RCRA under through enforcement of the HWCL. Final authorization for the state to implement RCRA was given in 1993. The responsible agency for enforcement of RCRA and HWCL is Cal EPA's Department Of Toxic Substance Control (DTSC).

E.11.2 Comprehensive Environmental Response, Compensation, and Liability Act

Originally passed in 1980, CERCLA created national policies and procedures to identify and remediate sites previously contaminated by the release of hazardous substances. CERCLA formalized the process for identification of sites and the prioritization for the cleanup of sites through the National Contingency Plan (NCP). The NCP contains criteria for the evaluation of sites that provide the basis for the preliminary assessment and site inspection. The evaluation that results in a

priority ranking of the site that determines whether it should be placed on the National Priority List (NPL). Facilities placed on the NPL are commonly referred to as "Superfund" sites. As noted previously, FISCO is not on the NPL.

E.11.3 Community Environmental Response Facilitation Act

Congress amended CERCLA in 1992 through the passage of CERFA. The purpose of CERFA is to expedite the identification of uncontaminated real property, within closing federal facilities, which offers the greatest opportunity for reuse and redevelopment. Uncontaminated or "CERFA-eligible" property is defined as any real property on which no hazardous substances and no petroleum products were stored for one year or more, known to have been released, or disposed. CERFA also provided clarification as to when "all remedial action has been taken." CERFA defined that all remedial action has been taken if construction and installation of an approved remedial design has been completed and the remedy has been demonstrated to the Administrator to be operating properly and successfully. The carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the administrator to be operating properly and successfully does not preclude the transfer of the property.

Identification of uncontaminated properties at FISCO is the responsibility of the Navy. EPA is the regulatory authority for enforcement of CERCLA, including the CERFA amendments. However, the EPA has joined with Cal EPA in the implementation of CERFA for DOD facilities in California. Cal EPA serves as the lead agency for closures of military bases, including FISCO, not listed in the NPL. Cal EPA generally follows EPA guidance for CERCLA sites.

For properties that cannot qualify as "CERFA-eligible," the CERFA law specifies that the deed for the transfer of subject property shall include a covenant warranting that all remediation necessary to protect human health and the environment with respect to any hazardous substance remaining on the property has been taken prior to the date of transfer and that any response action or corrective action found to be necessary after the date of transfer shall be conducted by the United States.

Properties that contain or potentially contain contamination cannot be transferred prior to environmental remediation. However, the DOD has established a policy for lease of these properties. The DOD with regulatory participation can develop a site-specific or supplemental environmental baseline survey, or in specific cases use the base-wide EBS and a finding of suitability to lease (FOSL) or finding of suitability to transfer (FOST) for the property. The FOSL may include specific land use restrictions to protect human health and the environment, and to ensure government access for final investigations and remediation. A FOST may be issued only for properties on which all remedial actions necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken (pursuant to CERCLA 120(h)(3)).

E.11.4 Aboveground and Underground Storage Tank Regulations

ASTs and USTs are subject to regulation by federal, state, and local agencies. Public agencies involved in the implementation and enforcement of AST and UST regulations are:

- EPA, Region IX, San Francisco, California
- State Water Resources Control Board, Sacramento, California
- California Air Resources Board, Sacramento, California
- Regional Water Quality Control Board, Oakland, California
- Bay Area Air Quality Management District, San Francisco, California
- Alameda County Environmental Health Dept., Oakland, California
- Oakland Fire Department

California has a cooperative agreement with EPA (1991) to implement AST and UST regulations through the SWRCB. California in turn delegates authority to county and city agencies for local implementation and enforcement of AST and UST regulations. The ACEHD are the local agencies responsible for the implementation and enforcement of AST, UST and hazardous materials regulations. The BAAQMD is responsible for the implementation and enforcement of air quality regulations in Alameda County. The OFD is responsible for enforcing the UFC as they apply to hazardous materials and tanks.

E.11.4.1 Federal Regulations

EPA issued final regulations in 40 CFR Parts 280 and 281, regarding USTs containing petroleum products and hazardous substances on September 23, 1988. The specific goals of the federal UST regulations are to: (1) prevent and detect UST leaks and spills; (2) correct environmental impacts resulting from UST leaks and spills; (3) assure UST owners and operators can pay for UST contamination; and (4) assure each state has an UST regulatory program that is at least as stringent as the federal regulations. The regulations that may apply to USTs are the following:

- Code of Federal Regulations (CFR), Title 40, Section 280, Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks;

- 40 CFR 109, Criteria for State, Local, and Regional Oil Removal Contingency Plan;

- 40 CFR 112, Oil Pollution Prevention (Spill Prevention Control and Countermeasures;

- 40 CFR 113, Liability Limits for Small Onshore Storage Facilities;

- 40 CFR 114, Civil Penalties for Violation of Oil Pollution Prevention Regulations; and

- Clean Air Act (CAA), 55 Federal Register, revised 1990.

E.11.4.2 Spill Prevention Control and Countermeasure (SPCC) Plan

Federal regulations for the prevention of and response to spills from storage tanks, include those facilities with an aggregate UST storage quantity of 42,000-gallons, or 1,320-gallon in AST storage or 660-gallons in one AST. These regulations are contained in Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112). In general, 40 CFR 112 outlines the requirements for facilities required to prepare a SPCC Plan, which includes a description of the UST facility, identifies potential spill hazards, discusses the current prevention procedures and personnel training and makes recommendations for corrective actions.

E.11.4.3 State Regulations

The state of California has adopted more stringent set of UST and AST regulations than those of the federal government. These tank regulations outline, the reporting, monitoring, closure, and tank system requirements for USTs and ASTs. The following state laws and regulations are applicable for regulating USTs and ASTs:

- California Health and Safety Code (CHSC), Division 20, Chapter 6.7, Sections 25280 through 25299.7 Underground Storage of Hazardous Substances, October 1990;

- CHSC, Chapter 6.5, Sections 25250 through 25250.25 Management of Used Oil;

- California Code of Regulations (CCR), Title 23 Waters, Division 3 State Water Resources Control Board, Chapter 16 Underground Tank Regulations, May 5, 1994;.

- CCR, Title 22, Division 4.5, Chapter 12, Standards Applicable to Generators of Hazardous Wastes; and

- CCR, Title 22, Division 4.5, Chapter 15, Interim Status for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities.

E.11.4.4 Local Fire Department Requirements

The local fire department enforces the tank regulations set forth in the CCR and the regulations pertaining to human and environmental protection in the Uniform Fire Code (UFC) (1994 edition), particularly Articles 52 and 79, for the construction, installation, operation, and closure of ASTs and USTs storing flammable and combustible materials. In addition, the local fire enforce local and state regulations in the California Fire Code and California Fire Code Standards and any local ordinance pertaining to the fire code.

E.11.5 Hazardous Waste Generator and Storage Regulations

Business that generates and stores hazardous waste are require to file hazardous waste contingency and business plans set forth in the state hazardous waste program, as specified in, CCR, Title 22, Division 4.5, Chapter 12, Standards Applicable to Generators of Hazardous Waste and Chapter 15 Interim Status Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage and Disposal Facilities. These regulation outline the requirements for pre-transportation and accumulation of wastes, personnel training, preparedness and prevention, contingency plan and emergency procedures and tank systems requirements.

E.11.6 Asbestos Regulations

Removal of asbestos containing material (ACM) is regulated by EPA, Occupational Safety And Health Administration (OSHA), and the state of California. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with ACM. The Toxic Substances Control Act (TSCA) and the Asbestos Hazardous Emergency Response Act (AHERA) provide the regulatory basis for handling ACM in school buildings. AHERA and OSHA regulations cover worker protection for employees who work around or remediate ACM.

Renovation or demolition of buildings with ACM has the potential to release asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage of various building materials, such as pipe and boiler insulation, acoustical ceilings, sprayed-on fireproofing, and other materials used for soundproofing or insulation. Only friable ACM, such as those listed above, are considered a health risk. Nonfriable ACM, such as transite piping, shingles, or floor tile, are not a health risk unless they are mechanically abraded in such a way as to produce dust.

E.11.7 Lead Paint Regulations

In 1992, Congress enacted the Residential Lead-based Paint Hazard Reduction Act of 1992, Title X of the Housing & Community Development Act (Public Law No. 102-550). As part of Title X, Congress amended the 1971 Lead-based Paint Poisoning Prevention Act (42 USC Section 4801-4846) and added a new Title IV to the Toxic Substance Control Act. Under this law, certain federally owned housing constructed prior to 1960 must be inspected for lead-based paint and lead-based paint hazards must be abated. Federal owned housing constructed after 1969 and before 1978 must be inspected for lead-based paint hazards and the data disclosed to prospective purchasers (42 USC Section 4822). The act also requires disclosure of lead-based paint hazard information.

E.11.8 PCB Regulations

The disposal of these PCBs is regulated under TSCA, which banned the manufacture and distribution of PCBs except for PCBs used in enclosed systems.

By definition, PCB equipment contains PCB concentrations of 500 parts per million (ppm) or more, whereas PCB-contaminated equipment contains PCB concentrations of 50 ppm or greater but less than 500 ppm. The EPA, under TSCA, regulates the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment. Primary federal regulations for controlling existing PCBs are found at 40 CFR Part 761. California regulations are more stringent than their federal equivalents and are found at California Code of Regulations Title 22. Within California, a waste fluid containing five ppm PCBs or more is regulated as hazardous.

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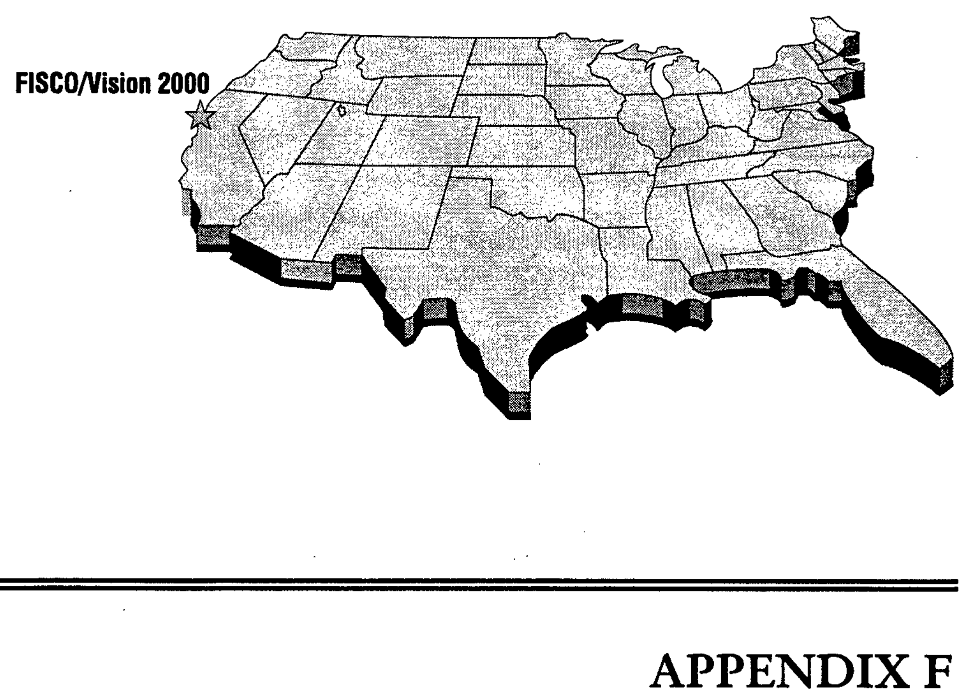

APPENDIX F
SOCIOECONOMICS

Appendix F
Socioeconomics

This Appendix presents information on existing socioeconomic conditions within the region of influence at several geographic levels. First, an overview of regional characteristics is provided for the three counties (Alameda, Contra Costa, and San Francisco) most likely to be affected by the project. For context, a brief description of conditions in the nine-county Bay Area as a whole also is provided. Then a description of citywide characteristics is provided for the City of Oakland, the jurisdiction in which the project is located. Finally, information on community-specific characteristics is provided for the West Oakland neighborhood, located south of Highway 80 and west of Highway 980.

Information about regional socioeconomic conditions provides a context for understanding the project site. Although workers may commute to the project site from other parts of the Bay Area, the majority of the Port of Oakland workforce lives in Alameda, Contra Costa, and San Francisco counties. According to the Local and Regional Economic Impact of the Port of Oakland, approximately 80 percent of the port employees reside in this three-county region, and within this region, more workers reside in Oakland than in any other city (O'Connell 1991). Oakland is also the jurisdiction in which the project is located. The community characteristics of West Oakland are described in detail because this area is closest to the project site. In addition, West Oakland has a predominantly poor minority population, making the evaluation of environmental justice considerations an important component of the socioeconomic impact analysis.

Major topics addressed in this section include population, income, employment, housing, and environmental justice. The base year used in describing existing conditions is 1990. This is the year of the latest US Census and the year for which data are most consistently available. Other primary data sources include the Association of Bay Area Governments (ABAG), State Economic Development Department (EDD), State Department of Finance (DOF), the US Navy, the Port

of Oakland (Port), the City of Oakland, and the Coalition for West Oakland Revitalization (CWOR).

F.1 POPULATION

This section describes the population growth that occurred throughout the region between 1980 and 1990, based on US census data. Population projections for 2010, based on estimates prepared by ABAG, also are provided. Population increases and rates of change are summarized on Table F-1 and are discussed in each subsection below. Table F-2 presents information on the racial characteristics of the population in each geographic area. This information also is discussed and compared in the sections below.

Table F-1
Regional Population Trends and Projections
1980, 1990, and 2010

Area	1980	1990	1980-1990 % Change	2010	1990-2010 % Change
Bay Area	5,179,759	6,020,147	+16.2	7,539,600	+25.2
Alameda County	1,105,379	1,276,702	+15.5	1,547,000	+21.2
Contra Costa County	656,380	803,732	+22.4	1,104,700	+37.4
City and County of San Francisco	678,974	723,959	+6.6	819,000	+13.1
City of Oakland	339,337	372,242	+9.7	406,600	+9.2
West Oakland	21,130	24,188	+14.5	NA	NA

Source: ABAG Projections 1994.
1980 and 1990 US Census.

F.1.1 Regional Overview

Population in the nine-county Bay Area increased 16 percent between 1980 and 1990, reaching just over six million. ABAG projects that the region's population will exceed 7.5 million by 2010. This represents a slower rate of growth than was experienced in the 1980's— an average annual increase of 1.26 percent, compared with a 1.62 percent average annual increase between 1980 and 1990. Alameda, Contra Costa, and San Francisco Counties contain nearly half (47 percent) of the total population of the Bay Area.

In 1990, the racial composition of the Bay Area's population was approximately 69 percent Caucasian, nine percent African American, less than 1 percent Native American, 15 percent Asian, and six percent of other racial origins. Persons of Hispanic origin made up 15 percent of the population. Between 1980 and 1990, the racial makeup of the regional population remained relatively constant, except that the proportion of Caucasians decreased (from 76 to 69 percent), while the percent of Asians increased (from 9 to 15 percent). The percentage of persons of Hispanic

origin also increased, from 12 to 15 percent. The percentage of the regional population comprised of African Americans remained constant.

Table F-2
Regional Racial Composition Trends,
1980 and 1990

	Percent of Total Population					
Area	Caucasian	African-American	Native American	Asian	Other	Hispanic Origin
Bay Area						
1980	76.1	9.0	0.7	8.9	5.3	12.2
1990	68.9	8.9	0.6	15.3	6.4	14.9
Alameda County						
1980	67.9	18.4	0.7	7.8	6.1	11.8
1990	59.6	17.9	0.7	15.1	6.8	14.2
Contra Costa County						
1980	81.5	9.2	0.6	4.7	4.1	8.5
1990	76.0	9.3	0.7	9.6	4.5	11.4
City and County of San Francisco						
1980	58.2	12.7	0.5	21.7	6.8	12.3
1990	53.6	10.9	0.5	29.1	5.9	13.9
City of Oakland						
1980	38.2	46.9	0.6	7.8	6.4	9.6
1990	32.5	43.9	0.6	14.8	8.3	13.9
West Oakland						
1980	6.7	86.6	0.3	2.7	3.8	4.6
1990	9.3	75.6	0.5	9.1	5.7	8.8

Source: 1980 and 1990 US Census.

F.1.2 Alameda County

In 1990, Alameda County was the second most populous county in the Bay Area, after Santa Clara County, and it was the only county in the nine-county region to have four cities with populations of more than 100,000 residents— namely Oakland, Fremont, Hayward, and Berkeley. The county's population increased by more than 15 percent between 1980 and 1990, and it is projected to increase by an additional 21 percent between 1990 and 2010. Most of the projected growth, however, will occur in the Livermore/Amador Valley, which is expected to experience extremely high growth rates during this period. This eastern portion of the county includes the communities of Dublin, Livermore, and Pleasanton. Growth in the western portion of the county, which includes Oakland, is expected to be quite slow during this period, with the exception of Emeryville. While Emeryville is expected to attract more than 4,000 new residents, for a population increase of 72 percent, the populations of Oakland, Berkeley, Alameda, and

Albany all are expected to increase by less than 10 percent over the 20-year period. The Association of Bay Area Governments (ABAG) Projections '94 states that population growth in these areas is projected to be minimal since "much of western Alameda County is expected to reach buildout by the year 2000, especially along the bay plain" (ABAG 1993).

Of the approximately 1.28 million people living in Alameda County in 1990, approximately 60 percent were Caucasian, 18 percent were African American, less than one percent were Native American, 15 percent were Asian, and seven percent were of other racial origins. In addition, 14 percent of Alameda County residents identified themselves as being of Hispanic origin. The racial composition of Alameda county is different from that of the Bay Area as a whole. The percentage of Caucasian residents in the County is lower, while the percentage of African American residents is twice as high as it is in the region. The percentages of other racial groups are comparable to those found in the region. As in the region, the percentage of Caucasians in Alameda County has declined since 1980, while the percentage of African Americans has held steady, and the percentage of Asians has increased.

F.1.3 Contra Costa County

Contra Costa County's population increased by 22 percent between 1980 and 1990. This was the third highest rate of growth for any county in the Bay Area, behind Solano and Sonoma Counties. ABAG projects that population growth in Contra Costa County will increase by an additional 37 percent between 1990 and 2010.

Census data indicate that in 1990, the county's population was approximately 76 percent Caucasian, nine percent African American, less than one percent Native American, 10 percent Asian, and five percent persons of other racial origins. Persons of Hispanic origin made up about 11 percent of the county's population in 1990. The percentage of Caucasian residents in the county is higher than that of the region, and the percentage of Asians is lower. The percentage of Caucasian Contra Costa County residents has decreased since the 1980 census, while the percentages of all other racial groups have increased. Most groups had only slight increases, except for Asians, whose proportion of the total population doubled during the decade.

F.1.4 City and County of San Francisco

The City and County of San Francisco's population increased by less than 7 percent between 1980 and 1990. This was the second slowest rate of growth for any county in the Bay Area, above only Marin County, and only a fraction of the state of California's 25.7 percent growth rate for this same period (EDD 1994). ABAG projects that population growth will continue to be slow between 1990 and 2010. San Francisco's population is projected to increase by 13 percent during the 20-year forecast period, reaching 819,000 in 2010. By then, the city will have

only 11 percent of the region's population, compared to 13 percent in 1980 and 12 percent in 1990.

Census data indicate that in 1990 the city's population was approximately 54 percent Caucasian, 11 percent African American, less than one percent Native American, 29 percent Asian and six percent of other racial origins. Persons of Hispanic origin made up 14 percent of the city's population. The percentage of Caucasian residents in the city is lower than in the region, while the percentage of Asians is more than double the region's. The percentages of both Caucasian and African American San Francisco residents have decreased since the 1980 census, while the percentages of Hispanic and Asian residents have increased.

F.1.5 City of Oakland

According to US Census data, the City of Oakland's population increased by almost 10 percent between 1980 and 1990. Oakland contained the largest population in Alameda County in 1990, and it is ranked as the third most populous city in the region (ABAG 1993). ABAG projects that Oakland's population will increase by an additional nine percent between 1990 and 2010. This rate of increase for the 20-year period, however, is less than half the growth rate experienced during the 1980s.

In 1980, Oakland's population was 38 percent Caucasian, 47 percent African American, less than one percent Native American, eight percent Asian, and six percent of other racial origins. Almost 10 percent of the city's residents identified themselves as being of Hispanic origin. In 1990, the percentages of Oakland's Caucsasian and African American populations declined to 33 percent and 44 percent, respectively, while the Native American population remained less than one percent. Over the same period, the city's Asian population nearly doubled, to 15 percent, while persons of other racial origins increased slightly, to eight percent. The percentage of persons of Hispanic origin also increased, from 10 to 14 percent in 1990.

F.1.6 West Oakland

Sixteen census tracts (4014 through 4027) lie within West Oakland, which is located south of Highway 80, west of Highway 980, north of the Oakland Estuary, and east of San Francisco Bay in the City of Oakland. The population of this community increased from 21,130 in 1980 to 24,188 in 1990, for a rate of growth that was about fifty percent higher than Oakland's overall growth rate for the same period.

West Oakland has had a long history of being a racially and culturally diverse community. In the early 1900s, the population was mostly Irish, but there were also large numbers of Chinese and Portuguese settlers, as well as a small core of African Americans who were families of Pullman porters who had moved there to be close to the railroad terminus. During World War II, many more African

Americans settled in West Oakland to work at the Kaiser shipyards. Many chose to stay even after the war ended and industrial activity declined (CWOR 1994).

Census data indicate that West Oakland's racial composition changed substantially between 1980 and 1990. While the absolute number of African Americans decreased very slightly during this period (from 18,278 in 1980 to 18,262 in 1990), the percentage of the community's population represented by this group decreased substantially, from 87 percent in 1980 to 76 percent in 1990. All other racial groups increased both in number and percentage.

The racial composition of West Oakland is distinctly different from that of the City of Oakland as a whole, as well as that of the region. More than three-quarters of West Oakland's population is African American, compared with 44 percent citywide and nine percent in the region. The second largest racial group is Caucasians, at nine percent, compared with 33 percent citywide and 69 percent regionwide. West Oakland's proportions of Asian and Hispanic residents are considerably lower than both the city's and the region's, although these segments of the population are growing.

F.1.7 Income

This section describes income characteristics in terms of mean household income, per capita income, and the percentage of persons living below the poverty level. Table F-3 presents mean household income and per capita income information, as reported by the US Census in 1980 and 1990. This table provides a basis for comparing data aggregated for the census tracts in West Oakland with other regional data. Table F-3 also provides data on the percentage of persons living below poverty level for each geographic location.

F.1.8 Regional Overview

According to US Census data, per capita income in the region more than doubled between 1980 and 1990, increasing from $9,369 to $19,716 (Table F-3). The percentage of persons living below the poverty level declined slightly over the decade, from 8.9 to 8.5. While the mean household income in the region more than doubled between 1980 and 1990, ABAG estimates the real increase at 24 percent, adjusted for inflation. ABAG notes that a substantial portion of this increase in household income came from an increase in the number of workers per household, rather than increased individual earnings. Recessionary forces have seriously weakened income growth in the region during the 1990s.

F.1.9 Alameda County

The mean household income in Alameda County more than doubled, from $21,773 in 1980 to $45,995 in 1990 (Table F-4). Adjusted for inflation, however, the mean household income rose only 23 percent during this period (ABAG 1993). According to US Census data, the per capita income in the county was $17,547 in 1990. The percentage of the population living below the poverty level decreased slightly, from 11.3 percent in 1980 to 10.6 percent in 1990.

Table F-3
Regional Income and Poverty Level Trends, 1980 and 1990

Area	Mean Household Income	Per Capita Income	Percentage of Persons below Poverty Level
Bay Area			
1980	24,304	$ 9,369	8.9
1990	52,082	19,716	8.5
Alameda County			
1980	21,773	8,537	11.3
1990	45,995	17,547	10.6
Contra Costa County			
1980	26,539	9,823	7.6
1990	55,033	20,748	7.3
City and County of San Francisco			
1980	20,552	9,265	13.7
1990	45,664	19,695	12.7
City of Oakland			
1980	17,970	7,701	18.5
1990	37,100	14,676	18.8
West Oakland			
1980	9,986	4,083	33.1
1990	21,940	7,763	36.4

Source: US Census, 1980 and 1990.

F.1.10 Contra Costa County

In 1990, households in Contra Costa County had a mean household income of $55,033, more than double the mean in 1980 (Table F-3). Adjusted for inflation, the increase in the mean household income was only 19 percent. According to US Census data, the per capita income in the county was $20,748, more than double the county's 1980 per capita income of $9,823 (Table F-4). While the number of persons living below the poverty level increased by 8,781 between 1980 and 1990, the proportion of the county's population below the poverty level remained relatively constant (7.3 percent in 1990, compared with 7.6 percent in 1980).

F.1.11 City and County of San Francisco

The mean household income in San Francisco in 1990 was $45,664, compared with $20,552 in 1980 (Table F-3). Adjusted for inflation, this increase was 34 percent over the decade (ABAG 1993). According to US Census data, the per capita income in San Francisco was $19,675 in 1990, more than double the per capita income of $9,265 in 1980. The percentage of persons living below the poverty level declined slightly, from 13.7 percent to 12.7 percent.

Table F-4
Regional Labor Force, Civilian Employment and Unemployment, 1980 and 1990

Area	No. of Persons 16 and Over	No. in Labor Force	% in Labor Force	No. of Civilians in Labor Force	No. of Civilians Employed	% of Unemployed
Alameda County						
1980	866,056	560,012	64.7	552,621	514,727	6.9
1990	1,005,755	689,517	68.6	676,896	635,840	6.1
Contra Costa County						
1980	500,757	326,530	65.2	324,216	305,313	5.8
1990	622,157	430,746	69.2	429,902	406,507	5.0
City and County of San Francisco						
1980	579,408	370,497	63.9	364,689	342,484	6.1
1990	620,818	417,147	67.2	412,385	386,530	6.3
City of Oakland						
1980	267,635	159,355	59.5	157,519	142,699	9.4
1990	288,543	181,419	62.9	179,513	162,488	9.5
West Oakland						
1980	15,652	6,536	41.8	6,257	4,875	22.1
1990	17,262	8,453	49.0	7,519	6,042	19.6

Source: US Census, 1980 and 1990.

F.1.12 City of Oakland

The mean household income in Oakland in 1990, was $37,100, more than double the 1980 figure of $17,970 (Table F-3). ABAG estimates the real increase as 20 percent, adjusted for inflation (ABAG 1993). Oakland's per capita income in 1990 was $14,676, an increase of 90 percent from 1980, when the per capita income was $7,701. Unlike the region and the other two counties, the percentage of persons living below poverty in Oakland rose between 1980 and 1990, from 18.5 percent to 18.8 percent. The percentage of persons living below the poverty level in Oakland is more than double the regionwide percentage.

F.1.13 West Oakland

Income statistics for West Oakland reveal it as a very poor community, relative to the rest of the City of Oakland, Alameda County, and the region. The mean household income more than doubled between 1980 and 1990, but it remained more than 40 percent below the citywide mean household income and less than half the countywide mean (Table F-3). Per capita income rose 90 percent between 1980 and 1990, from $4,083 to $7,763. This was roughly half the citywide per capita income and one-third the countywide per capita income. In West Oakland, as in the City of Oakland as a whole, both the number and percentage of persons living in poverty increased between 1980 and 1990, but West Oakland's percentage increased more markedly, from 33.1 percent in 1980 to 36.4 percent in 1990. This

is almost double the citywide percentage of persons living below poverty, and it is more than four times the 8.5 percent found regionwide.

F.1.14 Employment

This section provides information on labor force, unemployment rates and employment by industry. The first subsection below provides an overview of employment trends by sector for the nine-county Bay Area. Subsequent sections describe labor force participation rates, the number of persons employed, unemployment rates and employment by sector for the each of the three counties, the City of Oakland, and West Oakland. A discussion of FISCO and Port-related employment is included in the West Oakland section.

F.1.15 Regional Overview

The nine counties that comprise the Bay Area share a diversified and interconnected regional economy. San Francisco has served as a major financial and commercial center for the region, while the East Bay counties have attracted considerable industrial and manufacturing growth. Economic growth in the region was very strong from the 1940s until the mid-1970s. Since then, economic growth has slowed and the region has experienced several recessions. ABAG predicts that job growth from 1990 to 2010 will continue to be slow, relative to previous decades, and that the decentralization of jobs away from San Francisco to outlying suburbs will continue. Since 1980, the percentage of jobs in the services and retail trade sectors has been growing, while jobs in manufacturing and government have been shrinking. These trends are also expected to continue to 2010 (ABAG 1993).

Employed residents and unemployment. The number of employed Bay Area residents increased from 2.5 million in 1980 to 3.1 million in 1990, an increase of 24 percent. Employment growth is expected to slow considerably between 1990 and 2010, however, due mainly to the recession experienced in the 1990s. Over the 20-year forecast period, the number of employed residents in the region is expected to increase to 3.9 million by 2010, for an increase of about 23 percent. The rate of growth in the number of employed residents during these two decades, therefore, will be less than the growth rate that took place during the single decade between 1980 and 1990 (ABAG 1993).

Unemployment rates in the nine Bay Area counties, as calculated by California's Economic Development Division, ranged from 2.7 percent in Marin County to 5.6 percent in Solano County in 1990. Unemployment rates in the three-county region were in the middle of this range— 4.2 percent in Alameda County, 4.3 percent in Contra Costa County, and 4.0 percent in San Francisco County, compared with the statewide unemployment rate of 5.6 percent. Unemployment is calculated by EDD using an economic model, resulting in unemployment rates that are different from (and lower than) the civilian unemployment rates reported by the US Census (Champlain 1996). Table F-4 shows unemployment rates derived from the census, so that comparisons can be drawn between West Oakland and the rest of the region.

Employment by sector. Table F-5 provides an overview of employment by selected industries for the three-county region, for the City of Oakland, and for West Oakland in 1990. As indicated on the table, the US Census for that year presents data for seven industrial sectors. All areas share a generally consistent pattern in the proportion of employed residents by sector. Nearly half of the three-county region's employed persons (46 percent) work in two of the industrial sectors, professional and related services (25 percent) and wholesale and retail trade (21 percent). These are followed, in descending order, by manufacturing, 13 percent; fire, insurance, and real estate (FIRE), nine percent; transportation, communications, and utilities - 9 percent; business and repair services, six percent; and construction, six percent.

F.1.16 Alameda County

Employed residents and unemployment. The number of employed Alameda County residents increased by 24 percent between 1980 and 1990. Growth in the number of employed residents is expected to slow considerably between 1990 and 2010, however, with the number of employed persons projected to increase by 20 percent over the 20-year period. The cities expected to experience the greatest increases in the number of employed residents during these two decades are Oakland, Livermore, Dublin, and Pleasanton (ABAG 1993).

As shown on Table F-4, 69 percent of persons 16 and over living in Alameda County were in the labor force in 1990, an increase from 65 percent in 1980. Alameda County's civilian unemployment rate in 1990 was 6.1 percent, down from 6.9 percent in 1980.

Employment by sector. Table F-5 includes a breakdown of employment by industrial sector in Alameda County in 1990, as reported by the US Census. The highest percentage of residents (46 percent) were employed in two sectors, the professional and related services sector (25 percent), and the wholesale and retail trade sector (21 percent). The lowest percentage of residents were employed in the Construction sector (six percent). The percentages of county residents employed in other industrial sectors were manufacturing, 16 percent; transportation, communications, and utilities, nine percent; FIRE, seven percent; and business and repair services, six percent.

F.1.17 Contra Costa County

Employed residents and unemployment. Table F-4 summarizes labor force and employment trends in Contra Costa County. The number of employed Contra Costa County residents increased by 33 percent between 1980 and 1990. This was considerably higher than the 24 percent growth rate of employed persons in the Bay Area as a whole. Growth in the number of employed residents is expected to slow between 1990 and 2010, with a 38 percent increase projected for the 20-year forecast period. This growth rate projection nevertheless is higher than the 23 percent increase projected for the Bay Area as a whole between 1990 and 2010.

Table F-5
Number of Employed Residents by Selected Industries, 1990

Area	Employed Persons 16 and Over	Construction	Manufacturing	Transportation, Communications and Other Utilities	Wholesale and Retail Trade	Fire, Insurance and Real Estate	Business and Repair Services	Professional and Related Services
Alameda County	635,840	36,508	100,180	56,626	130,601	47,121	38,561	161,248
Contra Costa County	406,507	31,543	47,056	34,150	84,165	46,217	23,068	96,243
City and County of San Francisco	386,530	16,620	35,748	31,418	80,990	41,617	27,292	105,373
City of Oakland	162,488	8,492	17,284	14,668	30,258	12,130	10,793	47,659
West Oakland	6,042	326	591	577	1,180	251	499	1,671

Source: 1980 and 1990 US Census.

As shown in Table F-4, 69 percent of persons 16 years or over living in the county were in the labor force in 1990, an increase from 65 percent in 1980. Contra Costa County's civilian unemployment rate in 1990 was 5.0 percent, down from 5.8 percent in 1980.

Employment by sector. As shown on Table F-5, the highest percentage of Contra Costa County residents in 1990 were employed in the professional and related services sector (24 percent), and the wholesale and retail trade sector (21 percent). Fewer residents were employed in manufacturing, 11.6 percent; FIRE, -11.4 percent; transportation, communications, and utilities, 8.4 percent; construction - 7.8 percent; and services, six percent.

F.1.18 City and County of San Francisco

Employed residents and unemployment. The number of employed residents in the City and County of San Francisco increased 13 percent between 1980 and 1990 (Table F-4). Over the next two decades, the rate of growth is expected to be slower, with the number of employed residents projected to increase by only 13 percent over the 20-year period (ABAG 1993).

As shown on Table F-4, 67 percent of persons 16 and over living in San Francisco were in the labor force in 1990, compared with 64 percent in 1980. The civilian unemployment rate for the City and County of San Francisco was 6.3 percent in 1990, compared with a rate of 6.1 percent in 1980.

Employment by sector. In 1980, the highest percentage of San Francisco residents were employed in the professional and related services sector (27 percent), and wholesale and retail trade sector (21 percent), and the smallest percentage were employed in the construction sector (four percent). Of the remaining industrial sectors, 11 percent were employed in the FIRE sector, nine percent in manufacturing, eight percent in transportation, communications and utilities, and seven percent in business and repair services (Table F-5).

F.1.19 City of Oakland

Employed residents and unemployment. As indicated on Table F-4, the City of Oakland experienced a relatively low rate of growth in employment between 1980 and 1990, about 14 percent. Between 1990 and 2010, the employment growth rate for Oakland is projected to drop substantially lower than the growth rates for Alameda County and the three-county region as a whole during the same period. This projection reflects job losses due to the severe economic slowdown in California between 1990 and 1995, combined with the effects of military base closures (ABAG 1993).

As shown on Table F-4, 63 percent of persons 16 and over living in Oakland were in the labor force in 1990, compared with 60 percent in 1980. The City of Oakland's civilian unemployment rate in 1990 was 9.5 percent. This rate was substantially higher than those of Alameda County and the region.

Employment by sector. As shown on Table F-5, the distribution of employed Oakland residents among the selected industrial sectors generally conforms to the distribution within the three-county region as a whole. professional and related services employ the most residents, 29 percent, followed by wholesale and retail trade, at 19 percent. The Construction industry employs the lowest percentage of residents, five percent. Other sectors are manufacturing, 11 percent; transportation, communications and utilities, nine percent; FIRE, eight percent; and business and repair services, seven percent.

F.1.20 West Oakland

Employed residents and unemployment. West Oakland had proportionately fewer residents in the labor force compared with other parts of the region in both 1980 and 1990 (Table F-3). Less than half (49 percent) of persons 16 and over in West Oakland were in the labor force. This represented a substantial increase since 1980, when the proportion was 42 percent, but it is considerably lower than the percentages of persons in the labor force in Oakland (63 percent) and the three counties (67-69 percent) in 1990. The percentage of unemployed persons in West Oakland was 19.6 percent in 1990, down from 22.1 percent in 1980.

Employment by sector. As shown on Table F-5, the pattern of employment of West Oakland residents is similar to that of Oakland and the region, with a slightly greater proportion of residents employed in the transportation, communications and other utilities and business and repair services sectors. professional and related services employed the highest percentage of West Oakland residents (28 percent). This was followed by wholesale and retail trade - 20 percent; manufacturing, 10 percent; transportation, communications and other utilities, 10 percent; business and repair services, eight percent; construction, five percent; and FIRE, four percent.

Port of Oakland. According to the Port of Oakland Maritime Economic Impact Study, maritime activity related to the Port employed 6,694 persons in 1990. Table F-6 shows the number of employees by type. The largest percentage of jobs were in trucking (23 percent), government (15 percent), and warehousing (14 percent). Almost three-fourths of these workers lived in the three-county region, and more than 18 percent lived in Oakland in 1990 (Port of Oakland 1990).

This maritime activity at the Port generated more than $220 million in personal income from direct jobs alone in 1990. The Port estimates that the direct jobs at its maritime facilities supported an additional 2,900 induced jobs in the region as a result of maritime industry worker spending, for a total of almost 10,000 jobs. In addition, Port activities indirectly support a wide variety of other types of businesses, such as importers and exporters, throughout the region.

Table F-6
Employment Related to Maritime Activity at the Port of Oakland, 1990

Employment Sectors	Number of Employees	Percent
Railroad	570	8.5%
Trucking	1,549	23.1%
Terminal employees	411	6.1%
ILWU (longshore)	562	8.4%
Towing	31	0.5%
Pilots	12	0.2%
Agents	472	7.1%
Surveyors/chandlers	30	0.4%
Forwarders	558	8.3%
Warehousing	924	13.8%
Container repair/storage	29	0.4%
Government/military	993	14.8%
Marine construction/shipyards	148	2.2%
Barge	27	0.4%
Shippers/consignees	100	1.5%
Port of Oakland staff	202	3.0%
Banking/insurance	75	1.1%
Total direct jobs	6,694	100.0%

Source: Port of Oakland, 1996.

FISCO. An estimated 5,591 workers were directly employed at FISCO facilities in 1990. These included 3,265 workers at shore facilities, plus 2,326 personnel associated with ships homeported at FISCO. Almost all of these jobs (5,327 or 95 percent) were located on FISCO parcels 4 and 5. Assuming the same multiplier for these jobs as for the Port's maritime jobs, these direct jobs would have supported an additional 2,422 jobs, for a total of over 8,000 jobs.

F.2 HOUSING

This section provides information on housing supply and housing costs in the project vicinity and the region. Table F-7 presents an overview of regional housing characteristics and trends, based on 1980 and 1990 US Census data. The table and narrative discussion include information on housing trends and vacancy rates for West Oakland, as well as for the City of Oakland, the three counties, and the region.

Table F-7
Regional Housing Characteristics and Trends, 1980 and 1990

Area	No. of Housing Units	Vacancy Rate	Median Value-Owner-Occupied House	Median Rent
Bay Area				
1980	2,061,343	4.2	$ 98,100	$ 285
1990	2,365,323	5.0	255,476	690
Alameda County				
1980	444,607	4.1	84,900	240
1990	504,109	4.9	225,300	626
Contra Costa County				
1980	251,951	4.0	94,300	266
1990	316,170	5.0	219,400	613
City and County of San Francisco				
1980	316,608	5.7	103,900	266
1990	328,471	7.0	298,900	613
City of Oakland				
1980	150,274	5.7	66,600	202
1990	154,737	6.6	117,400	485
West Oakland				
1980	9,666	11.7	35,921	126
1990	9,866	12.0	101,871	323

Source: 1980 and 1990 US Census.

F.2.1 Regional Overview

The housing stock in the nine-county Bay Area increased by approximately 15 percent between 1980 and 1990, reaching almost 2.4 million units. Almost half of the region's housing units are located in three counties— Alameda, Contra Costa, and San Francisco. The housing vacancy rate in the Bay Area as a whole was 5.0 percent in 1990, with a 3.2 percent vacancy rate for units that were actually available for sale and for rent.

Of the occupied housing units in the region in 1990, 56 percent were owner-occupied, and 44 percent were renter-occupied. The median rent in the Bay Area was $690 in 1990. The median value of an owner-occupied unit was $255,476. Between 1980 and 1990, the median value of a home in the Bay Area increased by more than 160 percent.

F.2.2 Alameda County

There were just over 500,000 housing units in Alameda County in 1990. The county's housing stock had increased by 13 percent since 1980, adding about 60,000 new housing units. Of the total housing units in the county in 1990, 4.9

percent were vacant. The vacancy rate for units available for rent and for sale was 3.0 percent.

The owner-occupancy rate in the county in 1990 was 53 percent. The median rent in Alameda County was $626. The median home value was $225,300. Home values increased by more than 165 percent from 1980, when the median home value in the county was $84,900.

F.2.3 Contra Costa County

Contra Costa County's housing stock increased 26 percent between 1980 and 1990 (Table F-7). The vacancy rate for the total housing stock was 5.0 percent, up from 4.0 percent in 1980. The vacancy rate for units actually available for sale and for rent was 3.2 percent.

In 1990, 64 percent of Contra Costa's housing units were owner-occupied. The median value of owner-occupied homes was $219,400. This reflects an increase of 133 percent from the 1980 median value of $94,300. Nonetheless, this value is the lowest of the three counties, which may account for the higher rate of owner occupancy. The median rent was $613 in 1990, compared to $266 in 1980.

F.2.4 City and County of San Francisco

San Francisco had 328,471 housing units in 1990. The city's housing stock had increased by only four percent since 1980, reflecting the relative scarcity and high cost of land available for residential development, as well as the continuing suburbanization of the region. The vacancy rate in the city in 1990 was 7.0 percent, up from 5.7 percent in 1980. The vacancy rate for units actually available for sale and for rent, however, was 4.3 percent.

In 1990, 35 percent of homes were owner-occupied. This is considerably below the regionwide rate of 56 percent and reflects San Francisco's high housing costs relative to the rest of the region. The median value of an owner-occupied unit in 1990 was $298,900, a 188 percent increase from 1980, when the median value was $103,900. Median rent in San Francisco was $613 in 1990, compared to $266 in 1980.

F.2.5 City of Oakland

There were 154,737 housing units in Oakland in 1990. The city's housing stock had increased by only three percent since 1980, when there were 150,274 housing units. This slow rate of increase reflects the fact that Oakland's residential land is mostly built out. Of the total number of housing units in the city in 1990, 5.7 percent were vacant. This rate was slightly higher than Alameda County's vacancy rate of 4.9 percent. The vacancy rate for units in the city actually available for rent and for sale was 4.2 percent.

The owner-occupancy rate in the City of Oakland in 1990 was 39 percent, considerably lower than Alameda County's overall owner occupancy rate of 53

percent. The median rent was $485, and the median value of an owner occupied home was $117,400. Home values increased by 76 percent between 1980 and 1990. This is less than half the percentage increase experienced regionwide.

F.2.6 West Oakland

West Oakland contained almost 10,000 housing units in 1990. The local housing stock had increased only two percent between 1980 and 1990. Of the total housing units in West Oakland in 1990, 12.0 percent were vacant, more than double the 5.7 vacancy rate for the city. The vacancy rate for units in the area actually available for rent and for sale in 1990 was 6.7 percent.

The owner-occupancy rate in West Oakland in 1990 was 18 percent— only half the citywide and one-third the regionwide owner-occupancy rate. This reflects the large number of public housing units in West Oakland. There are more than 1,000 units of government-sponsored housing in the community. Most of these are concentrated in the Campbell Village, Acorn, and Oak Center projects (CWOR 1994).

In 1990, the median rent in West Oakland was $323 and the median value of an owner-occupied home was $101,871. Home values increased by 184 percent from 1980, when the median value was $35,921. West Oakland's housing stock is some of the oldest in the city. Many of the structures are not up to code or lack adequate heating or plumbing. CWOR reports that West Oakland contains 1,359 vacant and boarded up structures, which represents about 14 percent of all housing in the community. At the same time, the neighborhood's proximity to downtown Oakland has begun attracting a new population, which has raised fears about gentrification pressures (CWOR 1994).

F.2.7 FISCO

There are three units of housing on FISCO that house Navy personnel: Quarters A (Buildings 324), Quarters B (Buildings 325), and Quarters C (Buildings 323). These three units are located on the block bounded by 3rd Street, E Street, 4th Street, and G street in the northern portion of FISCO.

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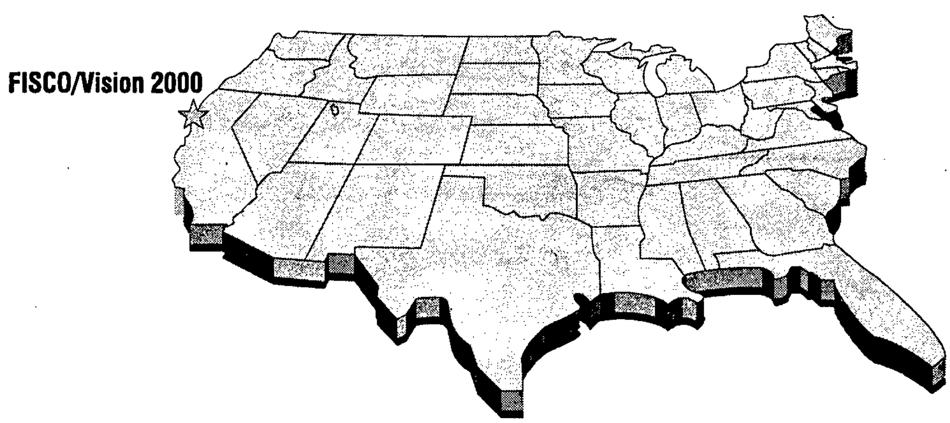


APPENDIX G
CULTURAL RESOURCES

MEMORANDUM OF AGREEMENT SUBMITTED TO ACHP IN 1994

PROPOSED AMENDED HISTORIC MITIGATION PLAN SUBMITTED TO ACHP IN 1996

MEMORANDUM OF AGREEMENT
SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
PURSUANT TO 36 CFR SECTION 800.6(a)

WHEREAS, the Department of the Navy (Navy) has determined that the leasing of approximately 220 acres of the Fleet Industrial Supply Center (FISC), Oakland, California,(the undertaking) will have an effect on the Naval Supply Center Oakland Historic District, a property eligible for inclusion in the National Register of Historic Places, and has consulted with the California State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the Port of Oakland participated in the consultation and has been invited to concur in this Memorandum of Agreement;

NOW, THEREFORE, the Navy and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

The Navy and the Port of Oakland will ensure that the following measures are carried out:

1. Prior to the demolition of any of the buildings on the land to be leased to the Port of Oakland (Phases I - III, Exhibit 1), the Navy shall contact the Office of National Register Programs, Western Region, National Park Service (NPS), 600 Harrison Street, Suite 600, San Francisco, California to determine what level and kind of recordation is required for the property. Unless otherwise agreed to by NPS, the Navy shall ensure that all documentation is completed and accepted by the Historic American Buildings Survey, NPS, prior to the demolition, and that copies of this documentation are made available to the SHPO and appropriate local archives designated by the SHPO.

2. By January 1, 1998 the Navy will prepare and initiate implementation of a Historic and Archeological Resources Protection (HARP) Plan in consultation with the SHPO, for those portions of the Naval Supply Center Oakland Historic District that will not be leased to the Port of Oakland and will nominate to the National Register of Historic Places, as required by Section 110(a)(2) of the National Historic Preservation Act, as amended, those remaining portions of the Naval Supply Center Oakland Historic District that appear to qualify.

3. The Navy, through FISC Oakland Public Affairs Officer, will allow for guided tours of the Naval Supply Center Oakland Historic District for interested community groups upon request on such terms and conditions as the Commanding Officer of FISC Oakland determines are compatible with the security and operation of the facility.

4. The Port of Oakland will publicize tours of the Naval Supply Center Oakland Historic District and arrange for trained docents to lead the tours.

5. The Port of Oakland will phase demolition of the historic buildings on the property it leases from the Navy at FISC Oakland. Buildings will be demolished only after HABS recordation is complete and an approved sublease for use of the land occupied by the building(s) requires its (their) removal.

6. The Navy will provide the Pacific Locomotive Association, Inc., a non-profit corporation, railroad track for use on the Niles Canyon Railway, a historical railroad museum from the rail car marshaling yard of Naval Supply Center Oakland Historic District.

7. The Port of Oakland agrees to carry out the obligations set forth in its letter of July 11, 1994 to the Oakland Landmarks Preservation Advisory Board attached hereto as Exhibit 2. The Navy will make a vigorous effort to obtain Legacy or other funding in Fiscal Year 1995 pursuant to the Department of Defense Appropriations Act of 1991 (PL 101-511) et seq. to assist the Port with the obligations assumed by the Port in Exhibit 2. Except for the aforementioned effort to obtain funding, the Navy assumes no obligations or responsibilities with respect to the provisions of Exhibit 2.

8. Should the SHPO object within 30 days to any proposals of the HARP Plan for FISC Oakland prepared pursuant to this Memorandum of Agreement, the Navy shall consult with the SHPO to resolve the objection. If the Navy determines that the objection cannot be resolved, the Navy shall request the further comments of the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Section 800.6(b). Any Council comment provided in response to such a request will be taken into account by the Navy in accordance with 36 CFR Section 800.6(c)(2) with reference only to the subject of the dispute; the Navy's responsibility to carry out all actions under this Memorandum of Agreement that are not the subjects of the dispute will remain unchanged.

Execution of this Memorandum of Agreement by the Navy, the Port, and the California SHPO, its subsequent acceptance by the Council, and implementation of its terms, evidence that the Navy has afforded the Council an opportunity to comment on the lease of approximately 220 acres of FISC Oakland to the Port and its effects on historic properties, and that the Navy has taken into account the effects of the undertaking on historic properties.

DEPARTMENT OF THE NAVY

By: J. R. Bailey Date: 8 Nov 94

J. R. Bailey, CAPT, SC, USN
[Name and Title of Signer]
Commanding Officer, Fleet and Industrial Supply Center Oakland

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By: Cherilyn Widell Date: December 5, 1994

CHERILYN WIDELL, CA STATE HISTORIC PRESERVATION OFFICER
[Name and Title of Signer]

Concur:

PORT OF OAKLAND

By: C R Roberts Date: 11/15/94

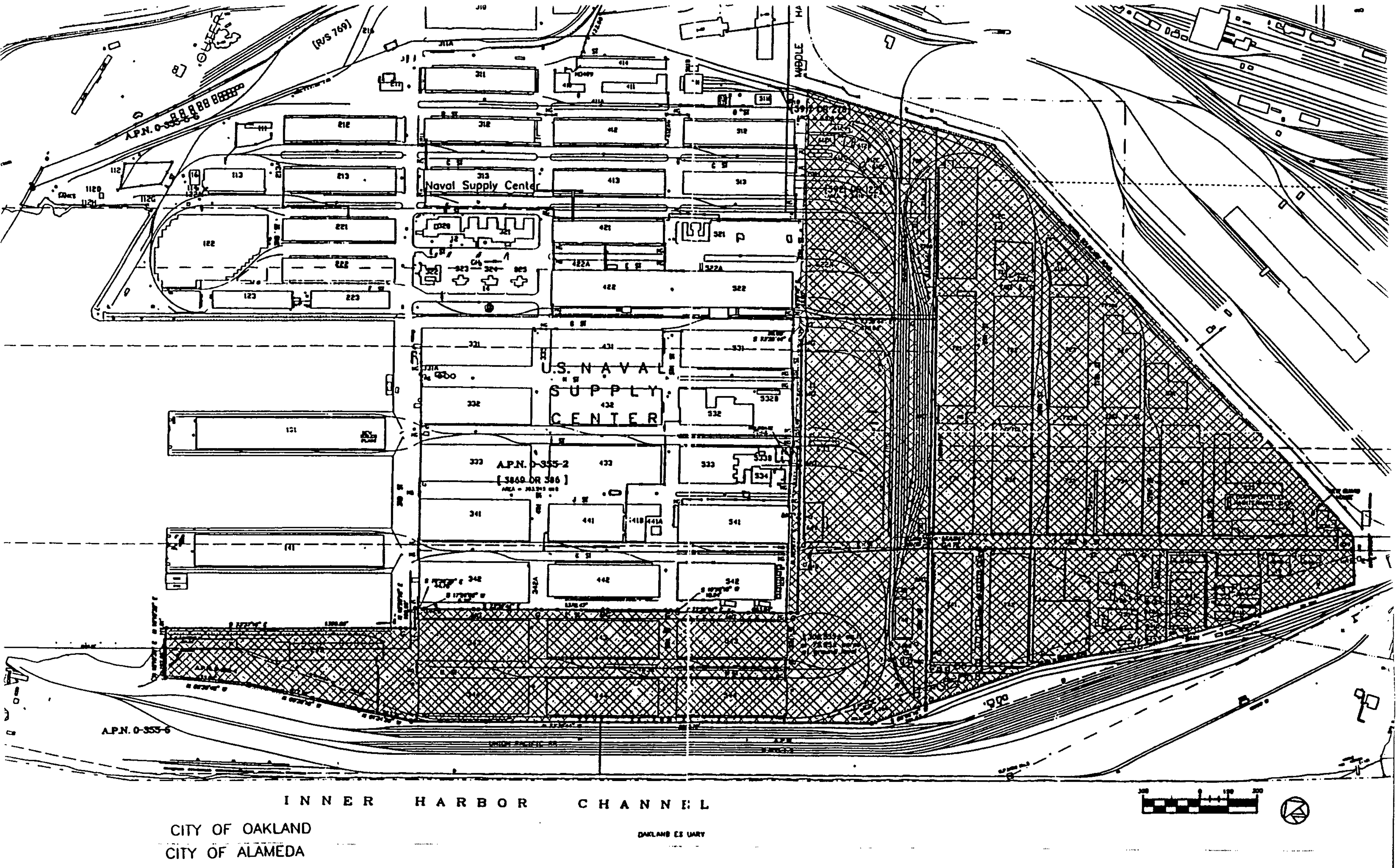
Charles R. Roberts, Executive Director
[Name and Title of Signer]

APPROVED AS TO FORM AND LEGALITY THIS 22nd day of November, 1994
Stanley P. Hebert
Port Attorney
Port Resolution No. 9431

ACCEPTED for the Advisory Council on Historic Preservation

By: Robert D. Bush Date: 12/22/94

[Name and Title of Signer]


U.S. NAVAL SUPPLY CENTER
Naval Supply Center
A.P.N. 0-355-2
[3860 OR 386]
A.P.N. 0-355-6
(R/S 769)
OUTER
MIDDLE
INNER HARBOR CHANNEL
CITY OF OAKLAND
CITY OF ALAMEDA
OAKLAND ES UARY

Exhib
1

Exhibit 2

PORT OF OAKLAND

July 11, 1994

Mr. Les Hausrath, Chair and Board Members
Oakland Landmarks Preservation Advisory Board
City Hall
One City Hall Plaza
Oakland, CA 94612

RE: Proposed Redevelopment of Naval Supply Center Oakland

Dear Mr. Hausrath and Board Members:

The Port has reviewed the recommendations of the Landmarks Preservation Board outlined in the letter signed by you dated April 27, 1994. After consideration of the options available, and consultation with City staff, the Port agrees to the following program to mitigate impacts to the potential historic district at the Naval Supply Center. As a formality, the Port will require approval from the Board of Port Commissioners prior to its implementation.

1. Provide well publicized tours of the NSCO led by trained docents, in coordination with the Navy on various dates.

2. Phase demolition.

3. Make a vigorous effort to submit a grant application, and to secure funding in the amount of $150,000 for a Legacy Grant under the Department of Defense. It is estimated that $50 million is available for grants under this program. Applications are due by August 15, 1994.

   The grant application would include:

   - Preparation of high caliber video for national viewing. PBS or documentary quality is desired. This effort would include a search for World War II footage of NSCO.
   - Development of oral histories of NSCO.
   - Development of a monograph in consultation with the Oakland Heritage Alliance, for public dissemination and for use in video.
   - Development of NSCO "exhibits" or story boards in consultation with the Oakland Museum, to be located at Berth 40 (Port View Park under development) and at the Oakland Airport in one of the terminal buildings. Intent is to place exhibit in a location with maximum public exposure. The intent would be to use artifacts from NSCO, if available, in the exhibit.
   - The goal of the Landmarks Board is for video and exhibits, publications, etc. to capture the history of World War II and its tremendous impact on the social, cultural and industrial development of Oakland, and the role Oakland and its Naval facilities played in World War II events.
   - If the grant is not obtained the first year, the Port will resubmit the application the next year.

- o If the Legacy Grant is secured, mitigation Item Number 7 below is dissolved.

- o The Port will administer the Grant Application, and the Port will work to identify an appropriate grantee to administer the mitigation program, and include funds in the grant application for the costs of administration.

4. The Port, Navy and City, during the Section 106 process, will strive to develop this mitigation program for Historic Issues that will cover this lease action and future base closure actions that may lead to JIT and other berth development in NSCO location. This is due to the fact that there is not enough available information on the future uses of the base.

5. Reconsider the preservation of the barracks building if the Navy and Port can, as an alternative, preserve in place one or more of the administrative buildings in the Northwest portion of Base, as part of the concept under Item Number 4. The Port will identify buildings in the northwest portion of the site that are suitable for preservation in lieu of the barracks. This area was nominated for preservation by West Oakland citizens that worked at the base during the War. They will be invited to participate in the identification of buildings for preservation. This concept will require Navy concurrence prior to final agreement.

6. Defer any Bay Trail or Public Access requirements or discussion until the base closure stage of the NSCO and initiation of the JIT project and environmental review. The Port will consult with Bay Trail advocates at this next juncture.

7. If Legacy funds are not granted within two years from the date of this letter, the Port will develop the video and exhibits listed under Item Number 3 above, but with more modest resources funded by Port. The amount of resources would be commensurate with lease and project development, and would not exceed $55,000 in 1994 dollars, adjusted for inflation according to the Consumer Price Index, beginning one year, and no longer than two years from the date of this agreement.

   The Port will determine the appropriate party to contract with a consultant to develop and administer the Mitigation Program. This may be a combination of the City, the Oakland Museum, the Port, and the Navy.

9. Record buildings to HABS standards prior to demolition.

   - o Include a description of the spatial and architectural relationships of the buildings that would be utilized in the formal video program discussed under Item Number 3 above.

   - o Select and preserve suitable artifacts for display.

10. This agreement is contingent upon the lease of the Naval Supply Center to the Port. If the lease is not consummated, the Port will not implement the above described mitigation program, since there will be no demolition of structures, and therefore no need for mitigation of impacts to the potential Historic District.

11. This represents the City's agreement for mitigation under the CEQA\NEPA review of the Naval Supply Center lease to the Port, as well as the NHPA Section 106 consultation.

We look forward to working with the City to preserve this important part of Oakland's heritage. We believe that the creative use of resources will produce a product that will inform Oakland's citizens of the important role that the City played as part of the World War II effort.

Very truly yours,

Loretta Meyer

Loretta Meyer,
Environmental Assessment Supervisor

cc: Helaine Kaplan-Prentice, Secretary

CITY HALL • ONE CITY HALL PLAZA • OAKLAND, CALIFORNIA 94

Landmarks Preservation
Advisory Board

TTY 839-6

July 14, 1994

Loretta Meyer
Environmental Assessment Supervisor
Port of Oakland
530 Water Street
Oakland, California 94604-2064

Dear Ms. Meyer:

At its July 11, 1994 meeting, the Landmark Preservation Advisory Board expressed its concurrence with the mitigation program for demolition at the Oakland Naval Supply Center as outlined in your letter of the same date. A copy of your letter is attached.

For purposes of clarification, under Item 11, the Landmarks Board represents the City only in so far as the Board is empowered to advise on matters related to historic preservation. Also, it is our understanding that under Item 9 a video record of the site of quality useable for the documentary will be made prior to demolition.

Thank you very much for your substantial effort on behalf of this important project, and for your cooperation in seeking an effective and comprehensive mitigation program. Please let us know if a letter of endorsement from the Board would help in support of the Legacy Grant application.

Sincerely,

Hel'anne Kaplan Thento for

LES HAUSRATH
Chairperson

Attachment
F-M276 1NSCOAK.HKP

PROPOSED AMENDED HISTORIC MITIGATION PLAN
12/3/96

BACKGROUND

- On August 9, 1994, the Board of Port Commissioners passed Port Resolution 94314 which approved a Memorandum of Agreement between the Port and the City of Oakland Landmarks Preservation advisory Board to create a mitigation program for the adverse effects on historic properties at the Naval Supply Center (now referred to as FISCO) as a result of the Port leasing 220 acres of FISCO.

- On December 12, 1994, the U.S. Navy entered into a Memorandum of Agreement between the Port of Oakland, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation which stipulated that the Port and the Navy agree to certain mitigation measures to take into account the effect of the Port lease of 220 acres and the proposed demolition of structures on the FISCO historic properties.

- Under the mitigation program the Port agreed to:

  Provide publicized tours of FISCO in coordination with the Navy;

  Phase demolition of buildings and structures;

  Consider preservation of a "barracks" building or administration building if such preservation is feasible;

  Record buildings to HABS standards prior to demolition;

  Submit a grant application to the Department of Defense "Legacy Grant" program in the amount of $150,000 to produce a documentary video, interpretive exhibits and other means of preserving and documenting the history of the FISCO and its impacts on Oakland and World War II. If "Legacy Grant" funds are not granted within two years the Port would provide the resources, up to $55,000, to develop the above material.

- To date the following developments have occurred:

  Tours of FISCO have been provided by the Navy and Port;

  Structure demolition has been phased;

  The preservation of the "barracks" and administration buildings was determined by the Port to be unfeasible;

The "barracks" buildings have been demolished;

All of the structures at FISCO have been recorded to HABS standards and the official FISCO Photographic Documentation (Historic American Building Survey) is housed at the Library of Congress, Washington, D.C. Copies of this official document are also with the Port of Oakland and the State Historic Preservation Office, Sacramento, CA.

Video footage of the buildings which have been demolished has been made, along with interviews with FISCO employees;

The Department of Defense has rescinded the Legacy Grant program; therefore, funds are not available for FISCO;

The Navy now plans to vacate and convey the entire FISCO site to the Port and the entire site is proposed to be redeveloped for the Port's Vision 2000 Program.

AMENDED AGREEMENT

- **Whereas, pursuant to the Defense Base Closure and Realignment Act of 1995, FISCO is now scheduled for closure in September, 1998. Therefore, the Port (and the Navy) wish to amend the existing Memorandum of Agreement to recognize the disposal and conveyance of the entire FISCO property to the Port and to mitigate the unavoidable, adverse effects of the Port's redevelopment (demolition of structures to accommodate maritime expansion) on the historic properties at FISCO. The Navy has determined that the disposal of FISCO and conveyance to the Port for reuse (the vision 2000 Program) will have an effect on the Naval Supply Center Oakland Historic District, a property eligible for inclusion in the National Register of Historic Places. The Vision 200 Program entails the redevelopment of the entire FISCO site for a joint intermodal rail facility (Union Pacific, Southern Pacific, and Santa Fe railroads), up to five shipping terminals, necessary ancillary facilities, infrastructure, roads, and utilities to support this expansion and a public access and habitat restoration area. The Port plans to begin construction of the Vision 2000 Program following conveyance of the base in 1998 and complete most improvements by the year 2005.**

- **Port will agree to the following:**

  To continue to provide publicized tours, led by docents and in coordination with the navy, as long as practicable

and safe for public access to FISCO. Publicity for tours will be disseminated as widely as possible, including press releases to local media, announcements on KTOP (City of Oakland Channel) and other public access stations and coordination of publicity with the Oakland Tours Program and Oakland Heritage Alliance;

To continue to phase demolition of structures at FISCO;

Because the scope of the base closure has increased and because the Department of Defense "legacy Grants" are no longer available, the Port will develop, publicize and disseminate a documentary video to preserve the history and significance of FISCO, to be funded by the Port in an amount not to exceed $200,000. As part of the production, the Port will implement a one-time distribution and outreach program, which will include the production, packaging, and distribution of tapes and viewer's guides and a professional, good faith effort to pursue television or non-theatrical distribution of the video. If necessary, the Port will provide an additional $25,000 to ensure the success of this mitigation through promotion and dissemination of the video. The Port will make its best efforts for the film to be produced by the team of historical preservationist, Marjorie Dobkins, and award winning documentary filmmaker, Bill Jersey, and their resumes are attached as Exhibit B. Also, a community advisory committee will review the script at key stages in the process.

The Port will provide funding, in an amount not to exceed $55,000, for the preparation of a movable exhibit commemorating FISCO and its place in Oakland history. The Port further agrees to provide prominent, dedicated exhibition space at the Oakland Airport, as part of a program with the collaboration of and consultation with the Oakland Museum. The exhibit at the Airport will provide space for revolving exhibits related to Oakland's cultural history. The Port will also work with the Museum and other agencies to provide for the presentation of the FISCO exhibit at other appropriate locations on an on-going basis.

The Port will include in the design and development of the public access areas at FISCO a structure, land form, or landscaping feature which captures in true scale the enormity of the facilities and activities required for FISCO's historic function. The Port will share design concepts and consult with the Oakland Public Art Advisory Commission, the Oakland Landmark's Board, Oakland Heritage Alliance, and ProArts, along with the West Oakland Community prior to final design.

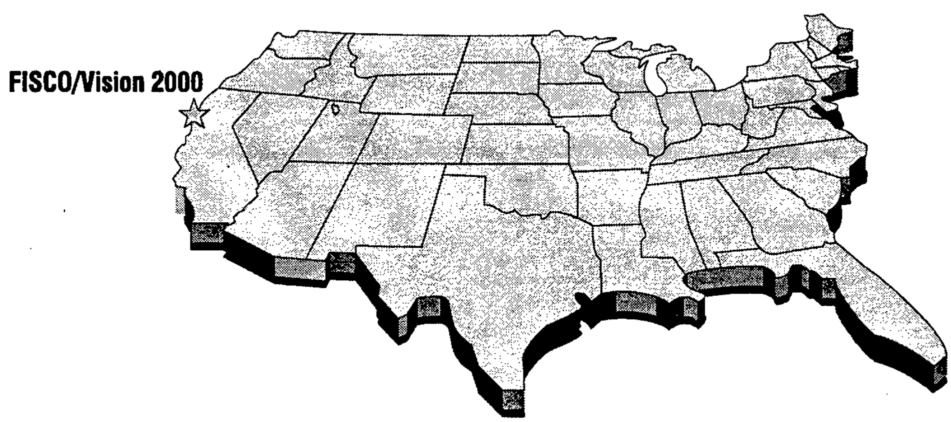
The Port will prepare and submit an application to the State Historic Resources Commission to designate the FISCO site as a State Historical Point of Interest and incorporate a recognition of this designation into the public access area.

The Port will make the three officers quarters buildings available for moving off-site and reuse by non-profit or other community based organizations at not charge for a period not to exceed three months prior to the demolition of the buildings. The Port shall provide funds up to the amount of the Port engineer's cost estimate of demolition to assist with the move. The offer shall be widely advertised and in accordance with indemnifications, releases and liability insurance to be provided in advance to the Port. The organizations receiving the building(s) are solely responsible, at no cost to the Port, to satisfy all requirements necessary to remove, transport, and resite the buildings. If no viable offers that meet the Port's criteria are received by the Port within the three months, the Port may demolish the houses. Port staff will make every effort to work with the West Oakland community to identify an agency, group, or individual interested in and capable of removing the houses for reuse.

- **The Landmarks Preservation Advisory Board agrees to the following:**

As agreed, the Port will take one more final examination of the feasibility of saving a single warehouse structure on FISCO, the Port will provide documentation of this feasibility study to the LPAB. This documentation is dated December 2, 1996, and attached to the MOA as Exhibit A. Following the submittal, review and acceptance by the LPAB of this documentation, the LPAB will determine that the mitigation program outlined in this MOA preserves and disseminates the story of the Naval Supply Center in the best possible manner short of preservation of the district itself and that the preservation of a building in place is not feasible because of critical land use and engineering restrictions.

The LPAB agrees that this agreement constitutes the complete and final mitigation for the unavoidable, adverse effects on the historic district of FISCO through the development of the Vision 2000 Program by the Port.



APPENDIX H
BIOLOGICAL RESOURCES

SPECIES STATUS NEAR THE PROJECT SITE H-1

LETTERS AND REPLIES CONCERNING LISTED SPECIES

1. LETTER FROM NATIONAL MARINE FISHERIES SERVICE TO US NAVY
   comment on NOP of EIR
2. LETTER FROM US NAVY TO NATIONAL MARINE FISHERIES SERVICE
   request for endangered species list
3. LETTER FROM NATIONAL MARINE FISHERIES SERVICE TO US NAVY
   response to request for endangered species list
4. LETTER FROM US NAVY TO US FISH AND WILDLIFE SERVICE
   request for endangered species list
5. LETTER FROM US FISH AND WILDLIFE SERVICE TO US NAVY
   response to request for endangered species list

Appendix H
Biological Resources

The table below shows federal and state species of concern observed in the general area of the FISCO/Vision 2000 project site. The table also lists threatened and endangered species and those species proposed for listing as threatened or endangered. However, it is unlikely that any threatened and endangered species are present at the project site.

Table H-1
Species Status Near the Project Site

Common Name Scientific Name	Federal Status	State Status	CNPS Status
Plants			
Alkali milk-vetch Astragalus tener var. tener	–	SCSC	1B
Kellogg's wedge-leaved horkelia Horkelia cuneata ssp. sericea	FSC	–	1B
Point Reyes (Northcoast) birds beak Cordylanthus maritimus ssp. palustris	FSC	–	1B
Adobe sanicle Sanicula maritima	FSC	SR	1B
San Francisco Bay spineflower Chorizanthe cuspidata var. cuspidata	FC	–	1B
Santa Cruz tarplant Holocarpha macradenia	FC	SE	1B
Invertebrates			
San Francisco lacewing Nothochrysa californica	FSC	–	–
Bridges' coast range shoulderband snail Helminthoglypta nickliniana	FSC	–	–
Ricksecker's water scavenger beetle Hydrochara rickseckeri	FSC	–	–
Fish			
Green sturgeon Acipenser medirostris	FSC	–	–
Longfin smelt Spirinchus thaleichthys	FSC	SCSC	–
Coho salmon Oncorhynchus kisutch	FPT	SSCT	–
Delta smelt Hypomesus transpacificus	FT	ST	–

Common Name Scientific Name	Federal Status	State Status	CNPS Status
Sacramento splittail Pogonichthys macrolepidotus	FPT	–	–
Tidewater goby Eucyclogobius newberryi	FE	SCSC	–
Amphibians			
Foothill yellow-legged frog Rana boylii	FSC	SCSC	–
California red-legged frog Rana aurora draytonii	FT	SCSC	–
California tiger salamander Ambystoma californiense	FC	SCSC	–
Reptiles			
Alameda whipsnake Masticophis lateralis euryxanthus	FPE	ST	–
California horned lizard Phrynosoma coronatum frontale	FSC	SCSC	–
Northwestern pond turtle Clemmys marmorata m.	FSC	SCSC	–
Southwestern pond turtle Clemmys marmorata p.	FSC	SCSC	–
Birds			
Double crested cormorant Phalacrocorax auritus	–	SCSC	–
California clapper rail Rallus longirostris obsoletus	FE	SE	–
Western snowy plover Charadrius alexandrinus nivosus	FT	SE	
California black rail Laterallus jamaicensis coturniculus	FSC	ST	–
Alameda song sparrow Melospiza melodia maxillaris	FSC	SCSC	–
Bell's sage sparrow Amphispiza belli b.	FSC	SCSC	–
Bald eagle Haliaeetus leucocephalus	FT	SE	–
Ferruginous hawk Buteo regalis	FSC	–	–
Burrowing owl Speotytoaunicularia	–	SCSC	–
Little willow flycatcher Empidonax taillii brewsteri	FSC	–	–
Saltmarsh common yellowthroat Geothlypis trichas sinuosa	FSC	SCSC	–
Tricolored blackbird Agelaius tricolor	FSC	SCSC	–

Common Name Scientific Name	Federal Status	State Status	CNPS Status
Mammals			
Salt marsh harvest mouse Reithrodontomys raviventris	FE	SE	–
Salt marsh wandering shrew Sorex vagrans halicoetes	FC	SCSC	–
Alameda Island mole Scapanus latimanus parvus	FSC	SCSC	–
Berkeley kangaroo rat Diptodomys heermanni berkleyensis	FSC	–	–
Fringed myotis bat Myotis thysanodes	FSC	–	–
Greater western mastiff bat Eumops perotis californicus	FSC	SCSC	–
Long-eared myotis bat Myotis evotis	FSC	–	–
Long-legged myotis bat Myotis volans	FSC	–	–
Pacific western big-eared bat Plecotus townsendii townsendii	FSC	–	–
San Francisco dusky-footed woodrat Neotoma fuscipes annectens	FSC	SCSC	–
Yuma myotis bat Myotis yumanensis	FSC	–	–

Source: California Department of Fish and Game 1995; Skinner and Pavlik 1994; US Fish and Wildlife Service 1996

Federal Status

FE = Endangered
FT = Threatened
FC = Candidate (formerly C1)
FPE = Proposed endangered
FPT = Proposed threatened
FSC = Species of concern (formerly C2)
FSCR = Species of concern recommended listing

State Status

SE = Endangered
ST = Threatened
SR = Rare
SCSC = California species of special concern
CEQA = Protected under CEQA
SSCT = Candidate for listing as threatened

California Native Plant Society (CNPS) Status

List 1A = Presumed extinct in California
List 1B = Rare and endangered in California and elsewhere
List 3 = Need more information - a review list
List 4 = Limited distribution - a watch list

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ITED STATES DEPARTMENT O: MMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
Habitat Conservation Division
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

February 7, 1994 F/SW022:DBM

Mr. Raymond Chiang
Environmental Engineer
Environmental Planning Branch
Western Division Naval Facilities Engineering Command
P.O. Box 727
San Bruno, California 94066

Dear Mr. Chiang:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report/Environmental Impact Statement (EIR\EIS) for the Commercial Uses of a Portion of Naval Supply Center Oakland. The following comments are meant to assist you in the completion of the EIR/EIS.

The National Marine Fisheries Service is responsible for preserving and enhancing marine, estuarine, and anadromous fish resources and the habitats that support these resources. The EIR/EIS should fully address any impacts associated with these resources.

We recommend that the EIR/EIS fully describe all dredge and fill activities, documenting the volumes of material and the size of paticular areas to be modified or impacted. The requirements of a long-term future maintenance dredging and disposal plan must be addressed in addition to new dredging proposed for the redevelopment project. Upland disposal of dredged material is preferred.

Upland activities planned for redeveloping the port facilities should be described, especially those that contribute to water quality problems of the bay. For example, a stormwater management plan should be described indicating runoff management with oil and grease traps before entry into the bay, or to a sewer system if appropriate.

If any redevelopment activities require fill in water areas or requires shore realignments, rip-rap, or bulkheads, these items will also need justification and an alternatives analysis.

If you have questions concerning these comments or wish to discuss the project further, please contact Mr. Dante Maragni of my staff at: National Marine Fisheries Service, Southwest Region, Habitat Conservation Division, 777 Sonoma Avenue, Room 325, Santa Rosa, California 95404; telephone 707-578-7513.

Sincerely,

James R. Bybee

James R. Bybee
Environmental Coordinator
Northern Area

cc: Port of Oakland, C. Schwarz

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B
185NR/EP-970
10 May 1996

Mr. James Bybee
National Marine Fisheries Service
777 Sonoma Ave. Rm 325
Santa Rosa, CA 95404

Dear Mr. Bybee:

We request a list of federally listed threatened and endangered species potentially occurring at the Naval and Fleet Industrial Supply Center, Oakland (FISCO), California. FISCO has been identified for closure pursuant to the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510).

Current schedule for operational closure in September 1998. The Port of Oakland will generate a reuse plan identifying the future land use of the facility. Reuse is expected to focus on the development of a joint intermodal terminal, expansion of marine freight handling terminals, development of a public access, and habitat mitigation areas. The anticipated issues of concern regarding the reuse by the Port of Oakland include: transportation, circulation, and traffic impacts including railroad, truck and automobile; geologic and hydrologic conditions affecting reuse; cultural resources; air quality; hazardous materials and hazardous waste; and cumulative effects of waterfront activities.

FISCO is located on approximately 541 acres on the eastern side of San Francisco Bay, south of the San Francisco-Oakland Bay Bridge, within the City of Oakland. The facility consist of four types of operations: general supply operations, waterfront operations, administration, and miscellaneous tenant operations. In 1995, the Port of Oakland began a 50 year lease of 220 acres of FISCO to support their intermodal rail facilities and maritime-cargo related uses.

Please provide the species list within 30 days of receipt of this letter. If you have other environmental concerns which may affect the closure or reuse of the facility, we would appreciate receiving those concerns at this time.

For additional information our point-of-contact is Mr. Gary Munekawa, Attention: Code 185GM (telephone 415-244-3022), at the letterhead address.

Sincerely,

Douglas R. Pomeroy
Douglas R. Pomeroy
Biology/Base Closure Section

Encls.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave. Rm 325
Santa Rosa, CA 95404

June 6, 1996 F/SW031:PR

Mr. Douglas R. Pomeroy
Biology/Base Closure Section
Department of the Navy
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

Dear Mr. Pomeroy:

This letter is in response to your request of May 10, 1996 regarding the presence of Federally listed threatened or endangered species or critical habitat that may be affected by the proposed closure and reuse of the Naval and Fleet Industrial Supply Center (FISCO) in Oakland, California.

Available information indicates that the Federally listed endangered Sacramento River winter-run chinook salmon may occur at the project site. No critical habitat occurs at the proposed project site. No other listed species under the jursidiction of the National Marine Fisheries Service occur in the project area. Your letter also requested identification of other environmental concerns which may affect the closure or reuse of the base facility. My letter of February 7, 1994 to Mr. Raymond Chiang regarding the Notice of Preparation identified environmental concerns with maintenance dredging and disposal, in-water fill or rip-rap placement, and water quality impacts from stormwater runoff. I have attached a copy of this letter for your reference.

The U.S. Fish and Wildlife Service (USFWS) may have listed species or critical habitat under its jurisdiction in the project area. Please contact Mr. Joel Medlin, Field Supervisor, USFWS, at 2800 Cottage Way, Room E-1803, Sacramento, California 95925, or (916) 979-2710, regarding the presence of listed species or critical habitat under USFWS jurisdiction that may be affected by your project.

My staff is available to review the EIR/EIS when it becomes available. If you have questions concerning these comments, please contact Ms. Penny Ruvelas of my staff at (707) 575-6062.

Sincerely,

James R. Bybee
Environmental Coordinator
Northern Area

cc: Craig Wingert, NMFS
Deborah McKee, DFG

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B
185NR/EP-969
10 May 1996

Mr. Joel Medlin
U.S. Fish and Wildlife Service
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, CA 95825-1846

Dear Mr. Medlin:

We request a list of federally listed threatened and endangered species potentially occurring at Fleet and Industrial Supply Center Oakland, (FISCO) California. FISCO has been identified for closure pursuant to the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510).

Current schedule for operational closure is September 1998. The Port of Oakland will generate a reuse plan identifying the future land use of the facility. Reuse is expected to focus on the development of a joint intermodal terminal, expansion of marine freight handling terminals, development of a public access, and habitat mitigation areas.

The facility is located on the eastern shore of San Francisco Bay, just south of the San Francisco-Oakland Bay Bridge and adjacent to the Port of Oakland. The facility is intensely developed and was constructed in 1940 on 541 acres of former marsh and submerged tideland. The facility is divided into six land use areas: administration/personnel support area, central supply area, waterfront area, residential area, tenant area, and Port of Oakland leased area (a map of the facility is enclosed).

Please provide this list within 30 days of receipt of this letter. If you have other concerns which may affect the closure or reuse of this facility pursuant to the Base Realignment and Closure process, we would appreciate receiving those concerns at this time.

For additional information our point-of-contact is Mr. Gary Munekawa, Attention: Code 185GM (telephone 415-244-3022), at the letterhead address.

Sincerely,

Douglas R. Pomeroy
Biology/Base Closure Section

Encls.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825

IN REPLY REFER TO:

1-1-96-SP-986

June 27, 1996

Mr. Douglas R. Pomeroy, Biology/Base Closure Section
Attn: Mr. Gary Munekawa, Code 185GM
Department of the Navy, Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

Subject: Species Lists for the Fleet and Industrial Supply Center Oakland, Alameda County, California

Dear Mr. Pomeroy:

As requested by letter from your agency dated May 10, 1996, you will find enclosed lists of sensitive species that may be present in *or may be affected by* projects in the subject project area (see Enclosures A and B). These lists fulfill the requirement of the Fish and Wildlife Service (Service) to provide species lists pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The Service used your map(s) and/or other information to locate the proposed project on an U.S. Geological Survey (USGS) 7.5 minute quadrangle map(s)(Quads). The animal species listed in Enclosure A are those species we believe may occur within, *or be affected by projects within*, the USGS Quad 466D, where your project is planned.

The plants listed in Enclosure A are those *that have actually been observed* in the project Quad(s). Enclosure B is a list of sensitive plants that have been observed in *surrounding Quads*. These plants may also occur in the Quad(s) where your project is planned.

Some of the species listed in Enclosures A and B may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for these species may be affected by the proposed action.

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Enclosure C for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, pursuant to 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office pursuant to 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal

consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

Candidate species are currently being reviewed by the Service and are under consideration for possible listing as endangered or threatened. Candidate species have no protection under the Endangered Species Act, but are included for your consideration as it is possible that one or more of these candidates could be proposed and listed before the subject project is completed. Should the biological assessment reveal that candidate species may be adversely affected, you may wish to contact our office for technical assistance. One of the potential benefits from such technical assistance is that by exploring alternatives early in the planning process, it may be possible to avoid conflicts that could otherwise develop, should a candidate species become listed before the project is completed.

The Service recently changed its policy on candidate species. The term *candidate* now strictly refers to species for which the Service has on file enough information to propose listing as endangered or threatened. Former *candidate category 2* species - species for which listing is possibly appropriate but for which the Service lacks sufficient information to support a listing proposal - are now called *species of concern*. They are no longer monitored by the Service. However we have retained them on the enclosed list for general information. We encourage consideration of them in project planning, as they may become candidate species in the future.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit shall be required, pursuant to section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations.

Please contact Mr. Michael Thabault at (916) 979-2725 if you have any questions regarding the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of the section 7 office assistant at this address. If you have any questions regarding wetlands, contact Mr. Mark Littlefield at (916) 979-2113.

Sincerely,

Cay C. Goude

for Joel A. Medlin
Field Supervisor

Enclosures

Federally Listed and Other Sensitive Species that May Occur in or be Affected by Projects in the Area of the Following Selected Quads

File Reference 1-1-96-SP-986
June 12, 1996

466D OAKLAND WEST

LISTED SPECIES

Mammals
salt marsh harvest mouse, *Reithrodontomys raviventris*(E)

Birds
American peregrine falcon, *Falco peregrinus anatum*(E)
California brown pelican, *Pelecanus occidentalis californicus*(E)
California clapper rail, *Rallus longirostris obsoletus*(E)
California least tern, *Sterna antillarum (=albifrons) browni*(E)
bald eagle, *Haliaeetus leucocephalus*(T)
western snowy plover, *Charadrius alexandrinus nivosus*(T)

Amphibians
California red-legged frog, *Rana aurora draytonii*(T)

Fish
delta smelt, *Hypomesus transpacificus*(T)
tidewater goby, *Eucyclogobius newberryi*(E)
winter-run chinook salmon, *Oncorhynchus tshawytscha*(E)
winter-run chinook salmon crit. habitat, *Oncorhynchus tshawytscha*(E)

PROPOSED SPECIES

Reptiles
Alameda whipsnake, *Masticophis lateralis euryxanthus*(PE)

Fish
Coho salmon, *Oncorhynchus kisutch*(PT)
Sacramento splittail, *Pogonichthys macrolepidotus*(PT)

CANDIDATE SPECIES

Amphibians
California tiger salamander, *Ambystoma californiense*(C)

Plants
Santa Cruz tarweed, *Holocarpha macradenia*(C)

SPECIES OF CONCERN

Mammals
Alameda Island mole, *Scapanus latimanus parvus*(SC)
Berkeley kangaroo rat, *Dipodomys heermanni berkleyensis*(SC)
Pacific western big-eared bat, *Plecotus townsendii townsendii*(SC)
San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens*(SC)
Yuma myotis bat, *Myotis yumanensis*(SC)
fringed myotis bat, *Myotis thysanodes*(SC)

Federally Listed and Other Sensitive Species that May Occur in or be Affected by Projects in the Area of the Following Selected Quads

File Reference 1-1-96-SP-986
June 12, 1996

Mammals, continued
greater western mastiff-bat, *Eumops perotis californicus*(SC)
long-eared myotis bat, *Myotis evotis*(SC)
long-legged myotis bat, *Myotis volans*(SC)
salt marsh vagrant shrew, *Sorex vagrans halicoetes*(SC)

Birds
Alameda (South Bay) song sparrow, *Melospiza melodia maxillaris*(SC)
Bell's sage sparrow, *Amphispiza belli belli*(SC)
black rail, *Laterallus jamaicensis*(SC)
ferruginous hawk, *Buteo regalis*(SC)
little willow flycatcher, *Empidonax traillii brewsteri*(SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa*(SC)
tricolored blackbird, *Agelaius tricolor*(SC)

Reptiles
California horned lizard, *Phrynosoma coronatum frontale*(SC)
northwestern pond turtle, *Clemmys marmorata marmorata*(SC)
southwestern pond turtle, *Clemmys marmorata pallida*(SC)

Amphibians
foothill yellow-legged frog, *Rana boylii*(SC)

Invertebrates
Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi*(SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri*(SC)
San Francisco lacewing, *Nothochrysa californica*(SC)

Plants
Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea*(SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata*(SC)
adobe sanicle, *Sanicula maritima*(SC)
alkali milk-vetch, *Astragalus tener var. tener*(SC)
northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris*(SC)

(E)--Endangered	Species that is in danger of extinction throughout all or a significant portion of its range
(T)--Threatened	Species that is likely to become endangered within the foreseeable future
(P)--Proposed	Species that hs been proposed in the *Federal Register* to be listed as endangered or threatened
(CH)--Critical Habitat	Area essential to the conservation of a species
(C)--Candidate:	Species for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened
(SC)--Species of Concern:	Species for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking.

(CR)--Recommended for Candidate Status
( )--Listing petitioned.

Enclosure B 1

Sensitive Plant Species That May Occur in the Quads Surrounding Quad 466D, California

File Reference 1-1-96-SP-986
June 12, 1996

LISTED SPECIES

California sea blite, *Suaeda californica*(E)
Marin dwarf-flax, *Hesperolinon congestum*(T)
Presidio clarkia, *Clarkia franciscana*(E)
Presidio manzanita, *Arctostaphylos hookeri ssp. ravenii*(E)
Presidio manzanita, *Arctostaphylos hookeri ssp. ravenii*(E)
Tiburon jewelflower, *Streptanthus niger*(E)
Tiburon mariposa lily, *Calochortus tiburonensis*(T)
Tiburon paintbrush, *Castilleja affinis ssp. neglecta*(E)
beach layia, *Layia carnosa*(E)
marsh sandwort, *Arenaria paludicola*(E)
robust spineflower, *Chorizanthe robusta*(E)
white-rayed pentachaeta, *Pentachaeta bellidiflora*(E)

PROPOSED SPECIES

San Bruno Mountain manzanita, *Arctostaphylos imbricata*(PT)
San Francisco lessingia, *Lessingia germanorum*(PE)
pallid manzanita (Alameda manzanita), *Arctostaphylos pallida*(PT)
showy Indian clover, *Trifolium amoenum*(PE)

CANDIDATE SPECIES

Santa Cruz tarweed, *Holocarpha macradenia*(C)

SPECIES OF CONCERN

Diablo rock-rose, *Helianthella castanea*(SC)
Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea*(SC)
Marin checkermallow, *Sidalcea hickmanii ssp. viridis*(SC)
Mission Delores campion, *Silene verecunda ssp. verecunda*(SC)
Montara manzanita, *Arctostaphylos montaraensis*(SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata*(SC)
San Francisco gumplant, *Grindelia hirsutula var. maritima*(SC)
San Francisco manzanita, *Arctostaphylos hookeri ssp. franciscana*(SC)
San Francisco owl's-clover, *Triphysaria floribunda*(SC)
San Francisco popcornflower, *Plagiobothrys diffusus*(SC)
Tiburon tarweed, *Hemizonia multicaulis ssp. vernalis*(SC)
adobe sanicle, *Sanicula maritima*(SC)
alkali milk-vetch, *Astragalus tener var. tener*(SC)
compact cobweb thistle, *Cirsium occidentale var. compactum*(SC)
delta tule-pea, *Lathyrus jepsonii var. jepsonii*(SC)
fragrant fritillary, *Fritillaria liliacea*(SC)
most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus*(SC)
northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris*(SC)
pappose spikeweed, *Hemizonia parryi ssp. congdonii*(SC)

Enclosure B

Sensitive Plant Species That May Occur in the Quads Surrounding
Quad 466D, California

File Reference 1-1-96-SP-986
June 12, 1996

(E)--Endangered	Species that is in danger of extinction throughout all or a significant portion of its range
(T)--Threatened	Species that is likely to become endangered within the foreseeable future
(P)--Proposed	Species that he been proposed in the *Federal Register* to be listed as endangered or threatened
(CH)--Critical Habitat	Area essential to the conservation of a species
(C)--Candidate:	Species for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened
(SC)--Species of Concern:	Species for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking.

(CR)--Recommended for Candidate Status

( )--Listing petitioned.

Enclosure C

FEDERAL AGENCIES' RESPONSIBILITIES UNDER
SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

SECTION 7(a) Consultation/Conference

Requires: (1) federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7(c) Biological Assessment-Major Construction Activity[1]

Requires federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action[2] on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitments of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat are present; a review of literature and scientific date to determine species' distribution, habitat needs, and other biological requirement; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

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[1]A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)C).

[2]"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

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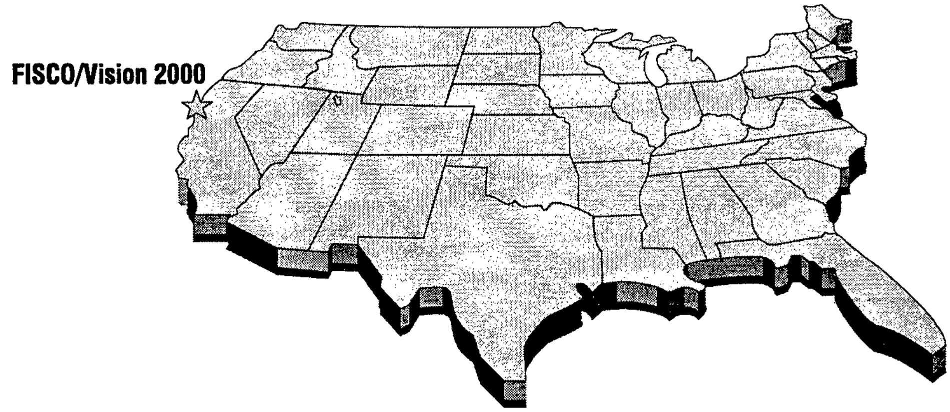

APPENDIX I
THE PORT OF OAKLAND AND PORT TENANT REGIONAL STORM WATER POLLUTION PREVENTION PROGRAM MARINE TERMINALS SUB-GROUP

The Port of Oakland and Port Tenant

Regional Storm Water Pollution Prevention Program

Marine Terminals Sub-Group

Prepared by
The Port of Oakland
Environmental Department

September 16, 1992

Revisions:
June 18, 1993
and
April 11, 1994

The Port of Oakland and Port Tenant

Regional Storm Water Pollution Prevention Program

Marine Terminals Sub-Group

Prepared by
The Port of Oakland
Environmental Department

September 16, 1992

Revisions:
June 18, 1993
and
April 11, 1994

The Port of Oakland and Port Tenant Regional Storm Water Pollution Prevention Program for the Marine Terminals Sub-Group has been prepared to satisfy the requirements of Section A of Water Quality Order 91-13-DEQ (as amended by Water Quality Order No. 92-12-DEQ), National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001. The present revision of this document and all attachments were prepared under my direction or supervision.

Jon Amdur Environmental Department Port of Oakland	1-4-95 Date

The Port of Oakland and Port Tenant
Regional Storm Water Pollution Prevention Program

Contents

Regional Storm Water Pollution Prevention Program
Marine Terminals Sub-Group

I. Introduction

In 1987, amendments to the Clean Water Act (CWA) added section 402(p) which established a framework for regulating industrial and municipal storm water discharges under the National Pollutant Discharge Elimination System (NPDES). On November 16, 1990, the Environmental Protection Agency (EPA) published final regulations that established requirements for storm water discharge permits for specific categories of industrial facilities. These categories include shipping, trucking and air transport facilities that conduct vehicle maintenance, or facilities where materials are stored in exposed areas.

The regulations allow authorized states to issue general permits or individual permits to regulate industrial storm water discharge. The California State Water Resources Control Board (Board) has elected to issue a statewide General Industrial Discharge Permit (General Permit) that will cover all industrial discharges except construction activities. To be covered under the State's General Permit, dischargers were required to submit a Notice of Intent (NOI) with the appropriate fees to the Board by March 30, 1992. Port tenants with activities regulated under the General Permit submitted individual NOIs to the Board.

In order to help its tenants and others comply with the new regulations, the Port has organized a working Group (Group) to prepare a storm water monitoring program. The Port is also providing assistance to its tenants in the preparation of the required Storm Water Pollution Prevention Plans (SWPPP), as well as the application of Best Management Practices (BMP). The Group is divided into two sub-groups. The sub-group divisions are based on the members' Industrial Classification and the water body into which they discharge. The two sub-groups consist of the Airport Sub-Group and the Marine Terminals Sub-Group.

In a joint effort between the Port of Oakland and its tenants, a Regional Storm Water Pollution Prevention Plan (RSWPPP) has been developed. This RSWPPP addresses management plans and Best Management Practices (BMPs) that can be implemented uniformly throughout the Port region. Uniformity in management of potential sources of pollution will make compliance easier and can save money on implementation by combining programs. The BMPs have been designed to maximize the benefits and minimize the costs of implementation.

Although a series of "generic" BMPs have been compiled for this program (Appendix A), site-specific BMPs will depend on the type and extent of the activities conducted on site.

Each Port tenant will be furnished a copy of this plan. It is the tenant's responsibility to implement the plans. Additional "Site-Specific" information will be supplied by the tenants and will be included in the appendix of the plans. Site-specific information includes:

1. Hazardous Materials Business Plans, which include a list of all the hazardous materials and the approximate amounts used on site. The Hazardous Materials Business Plans are to be prepared in conformance with Chapter 6.95, Section 25504, of the California Health & Safety Code. Section 25504 requires: (1) an inventory of all hazardous substances or chemical products handled by the business; (2) emergency response plans and procedures to be implemented in the event of release of a hazardous material; and (3) provisions to train all employees in safety procedures to be implemented in the event of a release, or threatened release, of hazardous material. The inventory is to contain sufficient information on how and where the hazardous materials are handled.

2. A site map showing the site boundaries, buildings, storm drains, fueling facilities, maintenance areas, vehicle washing areas, grease trap locations, and any other pertinent information.

3. Spill Prevention Control and Countermeasure (SPCC) plans.

4. Records of hazardous materials spills and disposal since 1988 (a good faith effort is expected in recording previous spills and disposal). In addition, maintain records of all employee training related to hazardous materials, spill response, and storm water education.

5. Descriptions of material loading, unloading and access areas (including hazardous waste/materials storage areas), existing structural and non-structural control measures (if any), methods of on-site storage and disposal of significant materials, and outdoor storage, manufacturing, and processing of materials.

This component of the RSWPPP covers the Marine Terminals Sub-Group (MTSG). Members of the MTSG are Port of Oakland industrial tenants whose major SIC codes consist of marine terminal operations, trucking and related services (Appendix B); activities in the MTSG are covered by SIC codes 3273, 3799, 4190, 4214, 4412, 4424, 4463, 4491, 4731, 4783; these tenants have submitted individual NOIs to the Board. Storm water from the MTSG members often combines with outside storm water sources and flows into the City of Oakland's storm drain system, which is connected in numerous locations with the Oakland Estuary and San Francisco Bay (Figure 1).

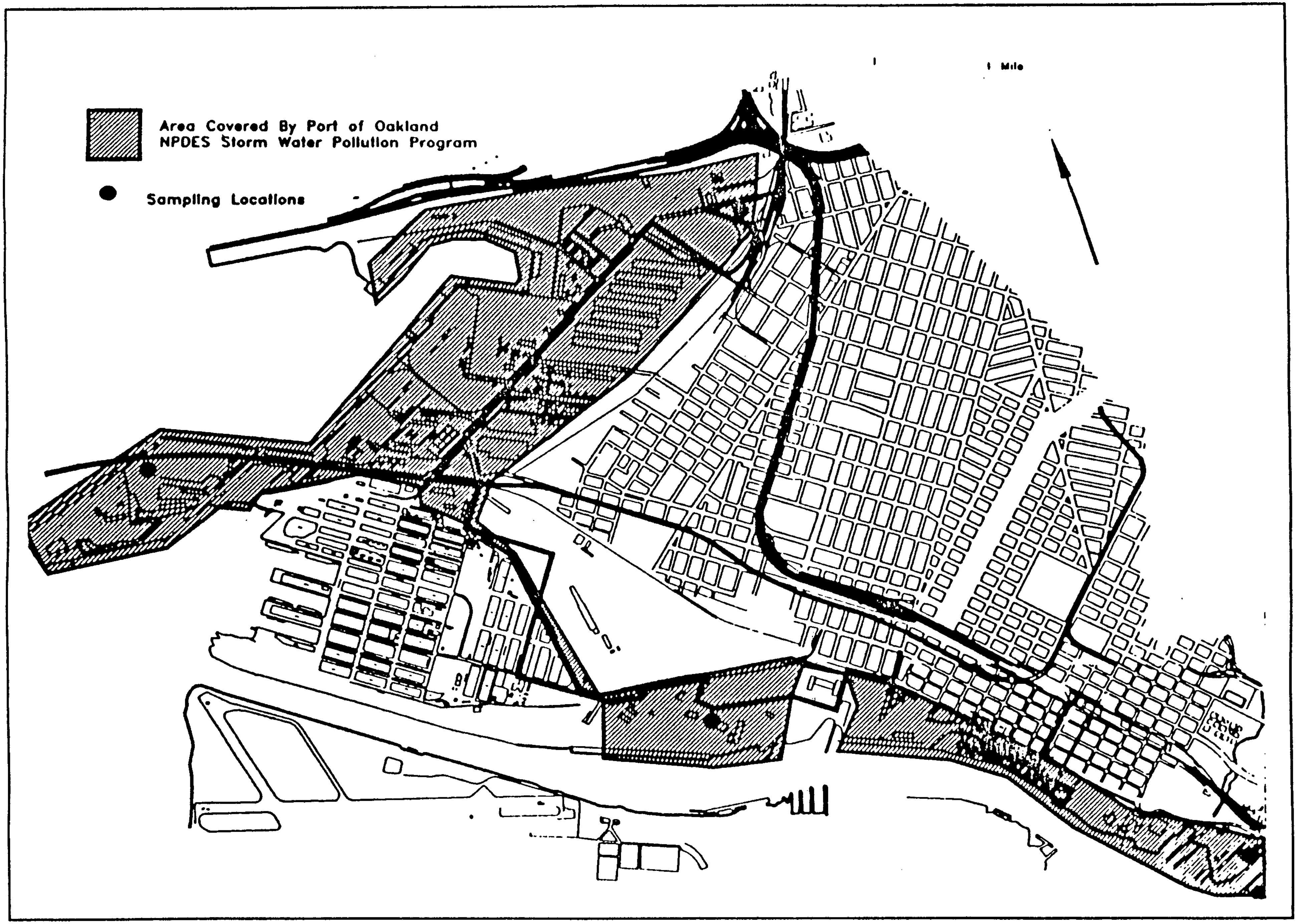

Figure 1: Marine Terminals Area

II. General Approach

Many of the management practices included in this plan are based on BMPs that have been shown to successfully reduce pollutant loads throughout the country. Others have been modified to suit the specific needs of marine terminal operations. The general premise for BMPs is common sense and awareness. The basic approach is as follows:

1. Do not allow any discharge to the storm sewer other than rainwater.

2. When possible, reduce the amount of hazardous substances used at the site.

3. Do as much vehicle maintenance work as possible indoors.

4. Store all hazardous substances properly and dispose of all hazardous wastes in accordance with all State, local, and Federal regulations.

5. If the facility does not currently have one, prepare a Hazardous Materials Business Plan and a Spill Prevention Control and Countermeasure (SPCC) plan. These plans are required under existing legislation (California Health and Safety Code Chapter 6.95, Section 25500, California Code of Regulations (CCR) Title 22, Section 67120 to 67126 and 67140 to 67145 and Title 40 Code of Federal Regulations (CFR) Part 112). However, SPCC plans are not required if the facility does not handle hazardous wastes and the underground buried storage capacity is 42,000 gallons or less of oil, and the storage capacity, which is not buried, of the facility is 1,320 gallons or less of oil, provided no single container has a capacity in excess of 660 gallons (40 CFR 112.1(d)(2)).

6. Maintain records of all employee training, hazardous materials disposal, and spills.

7. Use good housekeeping practices.

III. Facilities Upgrades and Capital Expenditures

In a number of instances, facility upgrades will be beneficial in reducing pollutant loads to the Bay, and generally make permit compliance and maintenance easier on the permittee. Low-cost structural modifications, such as low berms around storm drains to collect sediment and to prevent the direct discharge of spilled material to the storm sewer system, could be constructed in the near future.

Other modifications such as hazardous materials storage areas can be expensive to design and construct and would require budgeting. Decisions should be made as to which upgrades would be most beneficial for each facility, and scheduling of the upgrades should be completed and adhered to. In most cases, the tenant will be responsible for facility upgrades.

All upgrade plans should be reviewed and permitted by the Port of Oakland Engineering Department prior to construction. Low-cost items such as tarps, spill prevention equipment, and inexpensive secondary containments, should be purchased as soon as possible.

IV. Facility Maintenance

Standard Port/Tenant lease agreements contain a clause that requires the tenant to maintain the facility. In addition, the agreement stipulates that the tenant must abide by all local, State, and Federal laws and regulations. It is therefore the tenants' responsibility to conduct all maintenance activities associated with the storm drain permit. If a tenant wishes to have the Port maintain the storm drain system as outlined in the RSWPPP, an agreement can be reached that will allow Port maintenance of the drains, with the associated costs passed on to the tenant.

V. Designated Personnel

Each permittee should designate an individual who will be responsible for NPDES permit compliance (Storm Water Compliance Coordinator). This person must have authority to act on the permit requirements and should be fully versed on the NPDES permit and the RSWPPP. Other personnel should be appointed as an alternate and should also have authority to act on NPDES issues.

In many instances, it is beneficial to have a Storm Water Coordination Committee to review current practices and to help in the modification of work habits. The Coordination Committee should consist of the compliance coordinator, the alternate coordinator, supervisors and staff who are expected to perform the BMPs daily. The Coordination Committee may need to meet only once or twice per year, although more frequent meetings are encouraged.

The designated responsible party for each tenant in the Group SWPPP is included in the list of tenants in Appendix B.

VI. Inspections

Annual inspections will be performed by Port personnel to ensure that all members within the group are in compliance with the SWPPP. The Port will conduct these inspections in addition to the regular inspections that are to be conducted by the main storm water

supervisor at each Port tenant activity. The Port inspector(s) are to complete written documentation of the inspections (audit checklists) for each visit and keep the documentation for at least five years.

Appendix A

Generic Storm Water Pollution Prevention Plans

Best Management Practices for Vehicle Service Facilities

Generic Storm Water Pollution Prevention Plans
Best Management Practices for Vehicle Service Facilities

1. Storm Drains

Applicable Rule: Storm Drain Protection

Storm drains are designed to carry ONLY rainwater runoff. All other discharges are prohibited. This prohibition includes any fluid from vehicles including fuel, oil, grease, degreasing solutions, coolants, and rinse water from vehicle washing.

Compliance:

a: Never pour any vehicle fluid into the storm drain system.

b: Recycle vehicle fluids and all hazardous materials.

c: If recycling is not possible, all wastes should be properly disposed of as required by State and Federal Regulations (disposal of hazardous materials is covered in the tenant's Hazardous Materials Business Plan).

d: Where possible, waste reduction/waste minimization plans will be implemented to reduce the generation of potential pollutants.

e: Prevent the accidental discharge of vehicle fluids or hazardous materials into both the storm sewer and the sanitary sewer systems. Methods for preventing these discharges are covered under Section 2 (Spill Response) and Section 8 (Secondary Containment of Hazardous Substances).

f: General procedures for the prevention of discharges to the storm and sanitary sewer systems include:

- In all circumstances where the facility is large enough to accommodate the equipment requiring maintenance, vehicle maintenance work will be performed inside or under covered structures.

- For equipment that cannot be serviced under covered areas, all maintenance will be performed with drip pans or non-permeable tarps under the equipment. In addition, where adequate space exists, a bermed area can be constructed that will accommodate the vehicle requiring service. Any spills within the bermed area will be promptly cleaned up in accordance with procedures outlined in Section 2.

- During dry weather, storm drains can be protected using rubber or plastic mats to seal the drains. In addition, low berms can be constructed upstream of the storm drains.

g: Train all employees on procedures to reduce storm water pollution.

h: Label all storm sewer drains STORM DRAIN: STORM WATER DISCHARGE ONLY. Alternately, reiterate storm water runoff awareness during training and safety meetings.

i: Clean the storm drain catch basins once a year prior to the rainy season. This should be done in the following manner:

1. Inspect the basin for any sheen or petroleum odors.

   - Maintain a record of all storm drain inspections (see enclosed forms).

2. If a sheen or petroleum odor is detected on the standing water or the sediment, you should:

   - Have a certified analytical laboratory test the water and sediment prior to cleaning.

   - If hazardous levels of contamination are detected, contract with a hazardous materials disposal firm for removal.

   - If non-hazardous levels of contamination are found, disposal must be appropriate for the level of contamination.

3. If no sheen or odor is detected, clean out the basin by removing all debris that is accessible (NOTE: DO NOT FLUSH THE SYSTEM WITH WATER).

2. Spill Response

Applicable Rule: Storm Drain Protection

Storm drains are designed to carry ONLY rainwater runoff. All other discharges are prohibited. This prohibition includes any fluid from vehicles including fuel, oil, grease, degreasing solutions, and coolants. Spill response plans will be created for each facility that handles hazardous substances.

Compliance:

a: All spills, both large and small, must be cleaned up immediately. Any employee involved in spill response must be trained in the proper method of responding.

Training must include education on personal safety and methods of handling the materials safely (hazardous materials procedures training). The safety of the employee is the first concern. Proper equipment for spill response for each type of material, solvents, acids, etc., must be provided and must be readily available to the trained employee.

b: All absorbent material and disposable personal protective gear must be disposed of in accordance with all State and Federal laws.

c: If reportable quantities are spilled on site, notification will be made to the appropriate agencies as soon as possible. Depending on the material spilled and whether it enters the Waters of the State, notification will be made to the Oakland Fire Department, Regional Water Quality Control Board, U.S. Coast Guard, the Port of Oakland, California Department of Fish and Game, and any additional contractors required in order to control and clean up the spill. **Site-specific spill response plans and phone numbers can be found in the Appendix.** *-(to be prepared by tenants)-*

3. Sanitary Sewers

Applicable Rule: Permit Requirements Under East Bay Municipal Utility District (EBMUD)

EBMUD is responsible for the treatment and discharge of sanitary waste water only. EBMUD does not have the ability to treat non-permitted industrial wastes, nor can they treat storm water runoff. The discharge of any waste chemicals, process water, or storm water to the sanitary sewer system is strictly prohibited. The discharge of any substance other than sanitary wastes must be permitted by EBMUD.

Compliance:

a: Never dispose of any vehicle fluids, cleaning solvents, or other hazardous substances into the sanitary sewer system.

b: Recycle vehicle fluids and all hazardous materials.

c: If recycling is not possible, all wastes should be properly disposed of as required by all State and Federal regulations.

d: Permanently seal all floor drains connected to the sanitary sewer system within vehicle maintenance areas.

e: Use only biodegradable detergents in vehicle wash areas (See Section 9).

f: Do not steam clean engines except in areas that are covered, bermed, and have drainage to the sanitary sewer system through an approved grease trap (See Section 9).

g: Set up a preventative maintenance schedule for the inspection, cleaning, and proper disposal of all grease trap wastes.

4. Floor Drains

Applicable Rule: Permit Requirements Under East Bay Municipal Utility District (EBMUD)

EBMUD prohibits the discharge of fluids from vehicle maintenance areas without a permit. Permits may be available for treated discharges to the sanitary sewer system. EBMUD requires that all non-permitted drains within vehicle maintenance areas must be permanently sealed.

Compliance:

a: Permanently plug all floor drains within vehicle maintenance work areas, OR contact EBMUD to obtain a permit to discharge to the sanitary sewer system. (Port of Oakland tenants must notify the Port Building Permit Department prior to modifying any plumbing).

b: Clean floors in the following manner:

- Clean all spills using absorbent material such as sawdust or cat litter.
- Sweep the floor using absorbent material. Reuse this material for numerous cleanings or for spill cleanup.
- Mop the floor using biodegradable detergent and dispose of rinse water into sink.

c: Recycle vehicle fluids and all hazardous materials.

d: If recycling is not possible, all wastes should be properly disposed of as required by all State and Federal regulations.

e: Clean all vehicle parts in approved containment/recycling system (see section 5, Parts Cleaning).

f: Clean up all spills immediately (see section 2, Spill Response).

5. Parts Cleaning

Applicable Rule: Protection of the Waters of the State (Surface and Ground Water)

Solvents used to clean parts are regulated under State and Federal laws. The discharge of solvents to Waters of the State (surface water or ground water) is a direct violation of the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and other laws. Solvents must be used and stored in a manner to eliminate discharges to water, soil, or air. Used non-solvent cleaners should be disposed of as waste to prevent the discharge of grease, oil, and metals to the environment.

Compliance:

a: Implement a waste minimization program if possible. By reducing the amount of solvents and degreasers used, it is possible to save money and reduce the possibility of discharges to the environment.

b: Use self-contained parts washers, which include a storage drum, collection basins, solvent sprayers, splash guards (and in some cases, fume hoods). These washers are leased by companies that will pick up spent solvents and deliver fresh solvents.

c: All parts should be cleaned in one area set aside for this purpose. This area should be away from any storm sewer and sanitary sewer drains.

d: It may be practical for companies that use large volumes of solvents to treat the solvent on site for reuse. Concentrated waste water from the recycling process should be tested and disposed of in accordance with all applicable rules and regulations. (On-site recyclers may be subject to California Environmental Protection Agency (Cal EPA) Permit-by-Rule regulations.)

6. Changing Vehicle Fluids

Applicable Rule: Protection of the Waters of the State (Surface and Ground Water)

Vehicle fluids are not to be discharged to the sanitary sewer or storm sewer systems. Waste fluids spilled outside, even when they are promptly cleaned up, may mobilize during storms and enter the storm sewer system.

Compliance:

a: All vehicle fluid changing should be conducted inside when possible.

b: When circumstances prevent indoor maintenance (e.g., the maintenance of large equipment), non-permeable tarps or drip pans should be used.

c: Special outdoor maintenance areas can be constructed which slope away from storm drains and into containment areas to facilitate cleanup in the event of a fluid spill.

d: Purchase or fabricate fluid transfer equipment (e.g., oversized drip pans, drain caddies with funnels and pumps, or pump extraction equipment) that will reduce the chance of spills during transfer. The equipment selected should be specific for the site and need.

e: Place spill response equipment nearby when transferring fluids.

f: Depressurize all pressurized fluid systems (e.g., hydraulic systems or pressurized coolant systems) prior to beginning any repair work.

7. Leaking Vehicles

Applicable Rule: Protection of the Waters of the State (Surface and Ground Water)

Vehicle fluids are not to be discharged to the sanitary sewer or storm sewer systems. Waste fluids spilled outside, even when they are promptly cleaned up, may mobilize during storms and enter the storm sewer system.

Compliance:

a: Place drip pans under leaking vehicles and restrict use until vehicle is repaired.

b: Designate parking spaces for all equipment so sources of leaking equipment can be determined.

c: Promptly clean up any spilled fluids.

d: Repair leaking equipment within 24 hours of leak detection (except when parts are not available).

8. <u>Secondary Containment of Hazardous Materials</u>

<u>Applicable Rule:</u> <u>Protection of the Waters of the State (Surface and Ground Water)</u>

Vehicle fluids are not to be discharged to the sanitary sewer or storm sewer systems. Waste fluids spilled outside, even when they are promptly cleaned up, may mobilize during storms and enter the storm sewer system. Secondary containment of waste fluids and proper storage of chemical supplies will help reduce the chance of discharges to the environment. State and Federal laws require secondary containment for storage of hazardous wastes, used oil, or hazardous materials stored in USTs, as well as the preparation of Spill Prevention Control and Countermeasure (SPCC) plans if (1) hazardous wastes are stored or (2) if oil is stored and any of the following three conditions are met: the underground buried storage capacity of the facility is greater than 42,000 gallons of oil; the storage capacity, which is not buried, is greater than 1,320 gallons of oil; or a single aboveground container has a capacity in excess of 660 gallons.

Secondary containment should be provided for used batteries. Used batteries should be placed in plastic containers until the batteries can be picked up by a battery service. New batteries should be stored in an earthquake-safe manner (i.e., stored away from the edge of shelves, use shelves equipped with restraining straps, etc.). New or used batteries should never be stored outside.

<u>Compliance:</u>

a: Purchase appropriate secondary containment for the amount of waste or stock chemicals stored on site. Secondary containment equipment comes in many designs. An inexpensive system (used by the Port of Oakland) consists of a polyethylene tub capable of holding four 55-gallon barrels. The tub has a sliding cover to allow outdoor storage. Other systems consist of steel pallets with containment or even specialized storage sheds with containment floors, material dispensers, ventilation, lighting, ramps, and fire suppression equipment. When purchasing secondary containment, follow these rules:

- The containment must hold 110% of the material in one container (if all are the same size), 150% of the volume of the largest container, or 10% of the total volume of all the containers within the containment.

- Make sure that the material that the containment is made of is compatible with the stored wastes (e.g., acids, solvents etc.)

- Allow for proper ventilation.

b: An alternative to pre-fabricated containments is to construct a containment area using impermeable materials and berms (asphalt or concrete are acceptable if there are no cracks). The area and berms should be designed to hold 10% of the maximum amount of material that could be stored within the area. If this area is constructed outside, the containment area should have a roof to prevent the containment from filling with rain water.

c: Any spills within the secondary containment should be cleaned up promptly. **NOTE: OVERPACK DRUMS ARE NOT SECONDARY CONTAINMENT.**

9. Vehicle Washing and Steam Cleaning

Applicable Rule: Protection of the Waters of the State (Surface and Ground Water)

Vehicle wash water is not to be discharged to the storm sewer system. Wash water may be discharged to the sanitary sewer under the conditions outlined below.

Compliance:

a: Never discharge vehicle exterior, undercarriage, or engine wash water or steam cleaning residues to the storm sewer system.

b: Where possible, construct a vehicle washing area that can recycle wash water or can discharge wash water to the sanitary system under approved conditions:

- Use only biodegradable detergents.
- Ensure that no storm water can enter the sanitary sewer drainage system.
- Steam clean only if there is:

1. A grease trap attached to the sanitary sewer drainage system, OR
2. No solvents are used as part of the steam cleaning process.

In addition:

3. The discharge must be approved by EBMUD, OR
4. The discharge must drain into a holding tank and be disposed of as wastes instead of to the sanitary system.

c: Contract with a vehicle washing service that can recycle wash water or will dispose of wash water in an approved manner.

d: Rinsing of vehicle exteriors WITH WATER ONLY for appearances IS PERMITTED for discharge to storm sewers.

e: NOTE: Steam-cleaning wastes, or rinse water using degreasers often have high levels of hydrocarbon residues and metals. Engine and undercarriage rinse water may be considered a hazardous waste. Testing of rinse water may be required by State and Local regulators.

10. Vehicle Fueling

Applicable Rule: Protection of the Waters of the State (Surface and Ground Water)

Vehicle fueling must be done in a manner to reduce spills and discharges to the storm and sanitary sewer systems.

Compliance:

a: Operating instructions shall be posted at each fueling facility with emergency phone numbers.

b: An attendant will always be present during any fueling or fuel transferring operations.

c: Topping off is strictly prohibited.

d: Fuel will not be stored in buckets, open drums, or any other open containers.

e: Follow all procedures as outlined in the Underground Storage Tank Operating Permit Application and Monitoring, Spill Prevention and Emergency Response Plan. All Port of Oakland tenants with Port-owned tanks have a copy for their facility (See Appendix B).

f: Spill cleanup equipment will be located near the fueling facility and be readily available to trained personnel (See Section 2).

g: Only trained personnel shall operate mobile fueling facilities (tank trucks), and spill response equipment will be maintained on all mobile fueling sources.

h: A low berm can be constructed around any storm drains within the watershed that drains the fueling area.

11. <u>Maintaining Records</u>

Applicable Rule: <u>Requirement Under General Industrial Storm Water NPDES Permit and the California Code of Regulations</u>

Records of all employee training, storm sewer inspections, hazardous waste disposal, site spills, and storm sewer maintenance cleaning (yearly) must be kept on-site.

<u>Compliance:</u>

a: Maintain records of all employee training including:

- Hazardous Materials awareness training
- Spill cleanup procedures
- Storm water pollution education

b: Maintain records of storm sewer inspections (see attached forms). Storm sewers should be visually inspected at least once per month for dry season discharges, oil sheen, or petroleum odors.

c: Maintain records of the yearly storm sewer cleaning including:

1. What material was removed (sediment, plastic, etc.).
2. Was the material contaminated, and if so, what was the contaminant?
3. What was the final disposition of any contaminated material?

d: Maintain a record and disposal manifests for all hazardous waste disposal

e: Maintain a record of all spills that occur outside. Small spills (a few gallons) or leaking vehicles do not need to be logged as long as they are promptly cleaned. Spill logs should include:

1. What was spilled and approximately how much.
2. What was done to respond and who was notified.

PORT OF OAKLAND

INSPECTION REPORT
VEHICLE SERVICE FACILITIES

Inspected By:______________________________ Date:____________________

Tenant Representative
Signature:______________________________ Title:____________________

GENERAL INFORMATION

1. FACILITY NAME:______________________________
2. FACILITY ADDRESS:______________________________
3. MAILING ADDRESS (IF DIFFERENT):______________________________
4. CONTACT PERSON:______________________________
   TITLE:______________________________
5. PHONE NUMBER:______________________________
6. PRIMARY BUSINESS ACTIVITY:______________________________
   ____

SUBCATEGORIES:

general repair:________ fuel dispensing:________
radiator repair:________ exterior vehicle washing:____
dip washing:________ machining:________
engine cleaning:________ salvage/wrecking:________
body repair:________ painting:________
fleet operations:________

SITE-SPECIFIC REQUIREMENTS FOR VEHICLE SERVICE FACILITIES

The following is a list of site-specific requirements as described on page 2 of the *Port of Oakland Group Storm Water Pollution Prevention Program*. Circle the appropriate response (Yes, No, N/A) and add comments as necessary.

1. HAZARDOUS MATERIALS BUSINESS PLAN

Yes No N/A Does the facility have a Hazardous Materials Business Plan that includes a list of all hazardous materials and the approximate amounts used on-site?
____

2. SITE MAP

Yes No N/A Does the facility have a site map, including the following information:____

Yes No N/A site boundaries:______________________________

Yes No N/A all buildings:______________________________

Yes No N/A all storm drains:______________________________

Yes No N/A all fueling facilities:______________________________

Yes No N/A all maintenance areas:______________________________

Yes No N/A all vehicle washing areas:______________________________

Yes No N/A all grease trap locations :______________________________

Yes No N/A any other pertinent information:______________________________

3. SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

Yes No N/A If an SPCC plan is required, has one been prepared?______________

4. RECORDS OF SPILLED MATERIALS AND TRAINING

Yes No N/A Has a record of all spills been kept since 1988?______________
____

Yes No N/A Have records been maintained regarding employee training on hazardous materials, spill response, and storm water education? See also Maintaining Records in the Generic Requirements, Section 11 (page 5).______________
____

GENERIC REQUIREMENTS FOR VEHICLE SERVICE FACILITIES

The following are generic requirements as described on pages 5 through 15 of the *Port of Oakland Group Storm Water Pollution Prevention Program* for vehicle service facilities. Circle the appropriate response (yes, no, N/A) and add comments as necessary.

1. STORM DRAIN PROTECTION (PAGES 5 AND 6)

Yes No N/A Is there dry weather protection? ______

Yes No N/A Is the area around the storm drain free from evidence of recent spills or staining? ______

Yes No N/A Are all storm drains labeled? ______

Yes No N/A Has the annual cleaning been completed? If no, when? ______

2. SPILL RESPONSE (PAGES 6 and 7)

Yes No N/A Is a spill response plan in place? If no, when? ______

Yes No N/A Have all reportable spilled quantities been properly documented (as per the spill response plan)? ______

Yes No N/A Are spills cleaned up immediately? ______

Yes No N/A Is proper spill response equipment present? ______

Yes No N/A Is spill response equipment easily accessible in work area? ______

3. SANITARY SEWER PROTECTION (PAGES 7 and 8)

Yes No N/A Is there a preventive maintenance schedule for inspection, cleaning, and proper disposal of grease traps? ______

Yes No N/A Is the area around the sanitary sewer free from evidence of recent spills or staining? ______

4. FLOOR DRAINS (PAGES 8 and 9)

Yes No N/A Are all floor drains within the maintenance area(s) plugged? ______

Yes No N/A Has a permit been obtained for any unplugged floor drains? ______

Yes No N/A Are proper floor cleaning methods as per the SWPPP used (i.e., swept then mopped)? ______

5. PARTS CLEANING (PAGE 9)

Yes No N/A Is a waste minimization program in place?____________________

Yes No N/A Is a self-contained parts washer present? Describe____________________

Yes No N/A Is the parts washer location acceptable?____________________

6. CHANGING VEHICLE FLUIDS (PAGE 10)

Yes No N/A Is fluid changing conducted inside? If no, where?____________________

Yes No N/A Are drip pans used if outdoor fluid changes are required?____________________

Yes No N/A Is the fluid transfer equipment designed to reduce the chance of spills during transfer to recycling or disposal containers?____________________

Yes No N/A Are all pressurized fluid systems de-pressurized prior to beginning work?____________________

7. LEAKING VEHICLES (PAGES 10 and 11)

Yes No N/A Do leaking vehicles/equipment have drip pans?____________________

Yes No N/A Have parking spaces been designated for all vehicles/equipment?____________________

Yes No N/A Are leaking vehicles/equipment repaired within 24 hours?____________________

8. SECONDARY CONTAINMENT OF HAZARDOUS MATERIALS (PAGES 11 and 12)

Yes No N/A Has a Spill Prevention Control and Countermeasures Plan been prepared for aboveground storage areas with a capacity of more than 660 gallons in a single container or 1,320 gallons in combined containers of fuels?____________________

Yes No N/A Is the secondary containment adequate to contain 110% of one container (if all containers are alike) or 150% of the volume of the largest container?____________________

Yes No N/A Is the secondary containment material compatible with the stored wastes?____________________

Yes No N/A Are only compatible materials stored together?____________________

Yes No N/A Is the secondary containment in good condition?____________________

Yes No N/A Is the secondary containment properly covered?____________________

Yes No N/A Does the secondary containment area have adequate ventilation?____________________

9. VEHICLE WASHING AND STEAM CLEANING (PAGES 12 and 13)

Yes No N/A Is vehicle washing done on-site?__________

Yes No N/A Are only biodegradable soaps or water only used?__________

Yes No N/A Is equipment/engine steam cleaning done on-site?__________

Yes No N/A Is the wash area approved and permitted?__________

Yes No N/A Does the wash area have an approved sump?__________

Yes No N/A Is the wash area drain secure from the entry of storm water?__________

10. VEHICLE FUELING (PAGES 13 and 14)

Yes No N/A Are proper operating instructions posted at the fueling facility?__________

Yes No N/A Is an attendant always present during fueling activities?__________

Yes No N/A Is fuel being stored properly (i.e., not in buckets, drums or open containers)?__________

Yes No N/A Is spill cleanup equipment located next to the fueling area?__________

Yes No N/A For mobile fueling activities, are only trained personnel operating the refueling equipment?__________

11. MAINTAINING RECORDS (PAGES 14 and 15)

Yes No N/A Have employee training records been maintained? including the following:__________

Yes No N/A Hazardous materials awareness training?__________

Yes No N/A Spill cleanup procedures?__________

Yes No N/A Storm water pollution prevention education?__________

Yes No N/A Have records of storm drain inspections been maintained?__________

Yes No N/A Have records of yearly storm drain clean-out been maintained? including the following:

Yes No N/A Wastes removed?__________

Yes No N/A If the waste was contaminated, was the waste disposed of properly?__________

Yes No N/A Have all hazardous waste manifests been retained?__________

Yes No N/A Have all spills been recorded (including the following information?):__________

Yes No N/A Material spilled and how much?__________

Yes No N/A What was done to respond and who was notified?__________

ADDITIONAL COMMENTS:

PORT OF OAKLAND

INSPECTION REPORT (OPTIONAL*)

CLEANING ACTIVITIES

Activity	Number	Type of cleaning material used (e.g., water, steam, solvent, heat, dry abrasives, alkali cleaner, etc.)	Waste Handling (e.g., sanitary sewer, shipped for disposal, recycled, on-site reuse, etc.)	Sewer Use Permit? Yes / No / NA	Comments
I. Parts Cleaning	**Units**				
a. Sink(s) (e.g., solvent)					
b. Spray cans					
c. Hot tank(s)					
d. Steam cleaner(s)					
e. Jet sprayer(s)					
f. Mechanical cleaning					
g. other					
h. other					
i. other					
II. Engine/Undercarriage	**#/day**				
a. Engines					
b. Undercarriages					
III. Vehicle Washing	**Veh./day**				

* Optional information sheet to be used at the discretion of the Port auditing personnel

PORT OF OAKLAND
INSPECTION REPORT (OPTIONAL*)

OTHER ACTIVITIES

Activity	Activity present	Waste Handling (e.g., sanitary sewer, shipped for disposal, recycled, on-site reuse, treatment, etc.)	Sewer Use Permit? Yes / No / NA	Comments
I. Fluid removal/replacement				
a. Radiator fluid				
b. Motor oil				
c. Transmission fluid				
d. Hydraulic fluid				
e. Differential lubricant				
f. Refrigerant				
II. Radiator Repair				
a. Boil out tank				
b. Flush booth waste				
c. Test tank waste				
d . Other				
III. Battery Replacement				
IV. Body shop waste				
a. Thinner/Paint				
b. Other				
c. Other				
V. Machining				
VI. Wrecking/Salvaging				
VII. Other				

* Optional information sheet to be used at the discretion of the Port auditing personnel

Appendix B

Tenants in the Port of Oakland

Marine Terminals Sub-Group

Tenants in the Port of Oakland Marine Terminals Sub-Group

Note: SIC Codes, Industrial Activities, and designated responsible parties for these facilities were provided with letters to the Port confirming intent to participate in the Group Storm Water Pollution Prevention Plan.

American President Lines
1395 Middle Harbor Road
Oakland, CA 94607
Mark Yamamoto
(510) 272-3921

SIC Code 4412
Vehicle Maintenance and Storage

Berkeley/Oakland Ready Mix Company
491 Embarcadero
Oakland, CA 94606
Robert Branstad
Manager
(510) 526-1611

SIC Code 3273
Manufacturing
Vehicle Maintenance

International Transportation Services, Inc.
TransBay Container Terminal, Inc.
707 Ferry Street
Oakland, CA
Bill Walker
Supervisor, Safety & Loss Control
(510) 839-8228

SIC Codes 3799, 4491
Vehicle Maintenance

Keep on Trucking
370 8th Avenue
Oakland, CA
Richard Padovani
Terminal Manager
(510) 893-6011

SIC Code 4214
Vehicle Maintenance
Material Handling

Maersk Line Terminal
909 & 700 Ferry Street
Oakland, CA
Nick J. La Rocco
Marine Operations Superintendent
(510) 835-7500

SIC Codes 4412, 4424, 4491
Material Handling

Marine Terminals Corporation
Seventh Street Public Container Terminal
90 Seventh Street
Oakland, CA
Bruce Elerick, R.E.A.
Manager, Safety & Security
(510) 645-1458

SIC Code 4491
Vehicle Maintenance, Stevedoring

Matson Terminals, Inc.SIC Code 4463
Oakland Terminal
3050 Seventh Street
Oakland, CA
G. N. Garvey
F&M Manager
(510) 271-9826

Material Storage and Handling
Vehicle Maintenance

Military Traffic Management
Command Western Area
Oakland Army Base
Oakland, CA
Glenna M. Eiermann
Environmental Engineer
(510) 466-2293

SIC Codes 4491, 4731, 4783
Material Storage and Handling
Vehicle Maintenance and Storage

Sea Land Services, Inc. SIC Codes 4412, 4424
1425 Maritime Street
Oakland, CA
Shirley Kennedy
Loss Prevention & Safety Supervisor
(510) 271-1294

Vehicle Maintenance
Material Handling

Stevedoring Services of America
Howard Container Terminal
1 Market Street
Oakland, CA
Sandi Lira
(510) 238-4400

SIC Code 4190
Vehicle Maintenance

Stevedoring Services of America
Berth 23
1195 Maritime Street
Oakland, CA 94607
Jacques Lira
Terminal Manager
(510) 419-1800

SIC Code 4190
Vehicle Maintenance

Trans Pacific Container Service Corporation
5100 Seventh Street
Oakland, CA
Terry W. Murphey
Maintenance & Repair Manager
(510) 834-0680

SIC Codes 4412, 4424
Material Handling and Storage
Vehicle Maintenance and Storage

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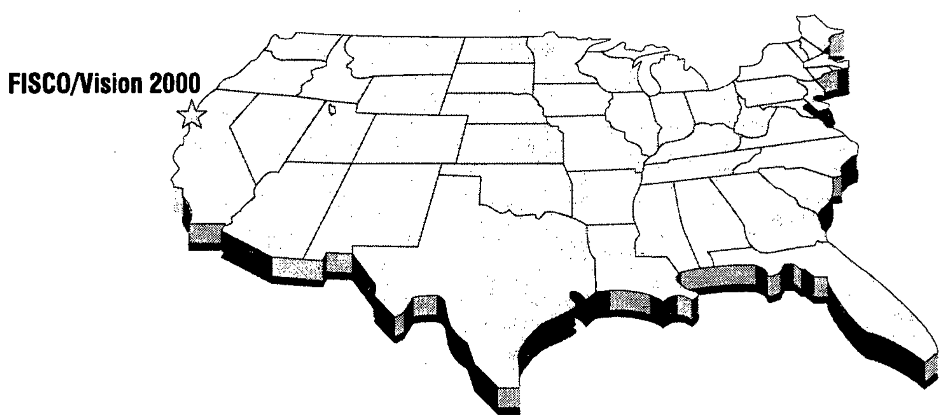

APPENDIX J
TRAFFIC AND CIRCULATION

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APPENDIX J: TRAFFIC AND CIRCULATION

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J.5: Peak Hour Marine Terminal Truck Traffic Generation

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Existing Traffic Data

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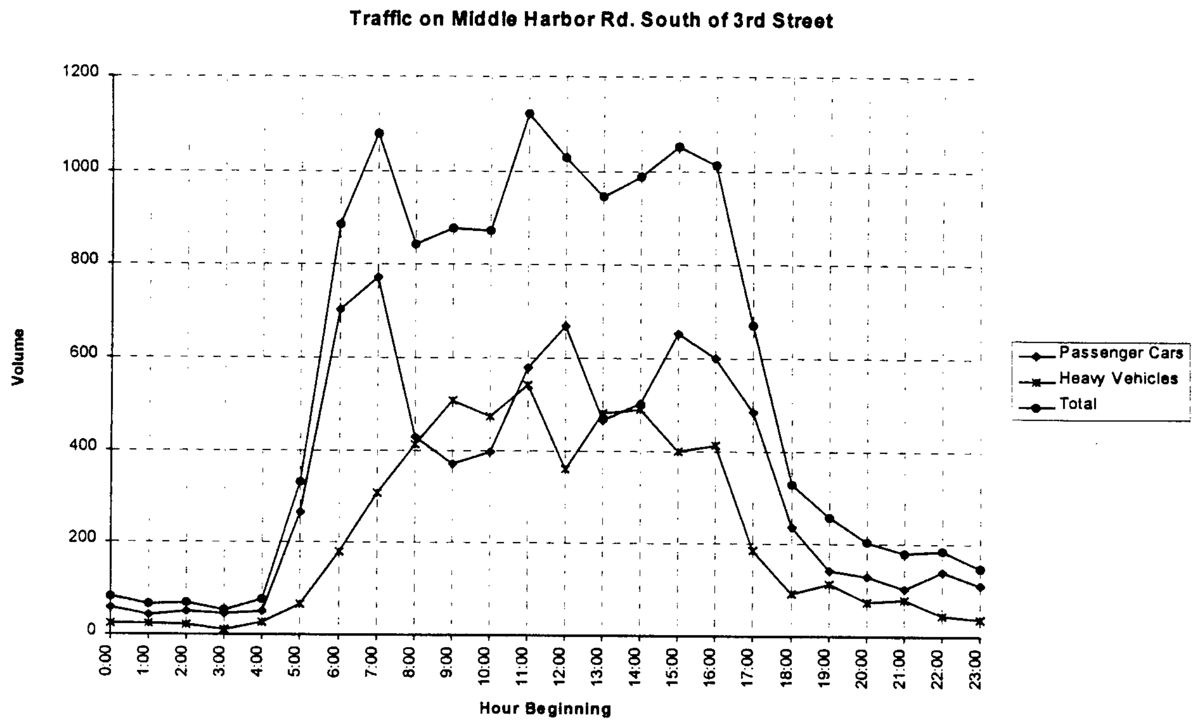
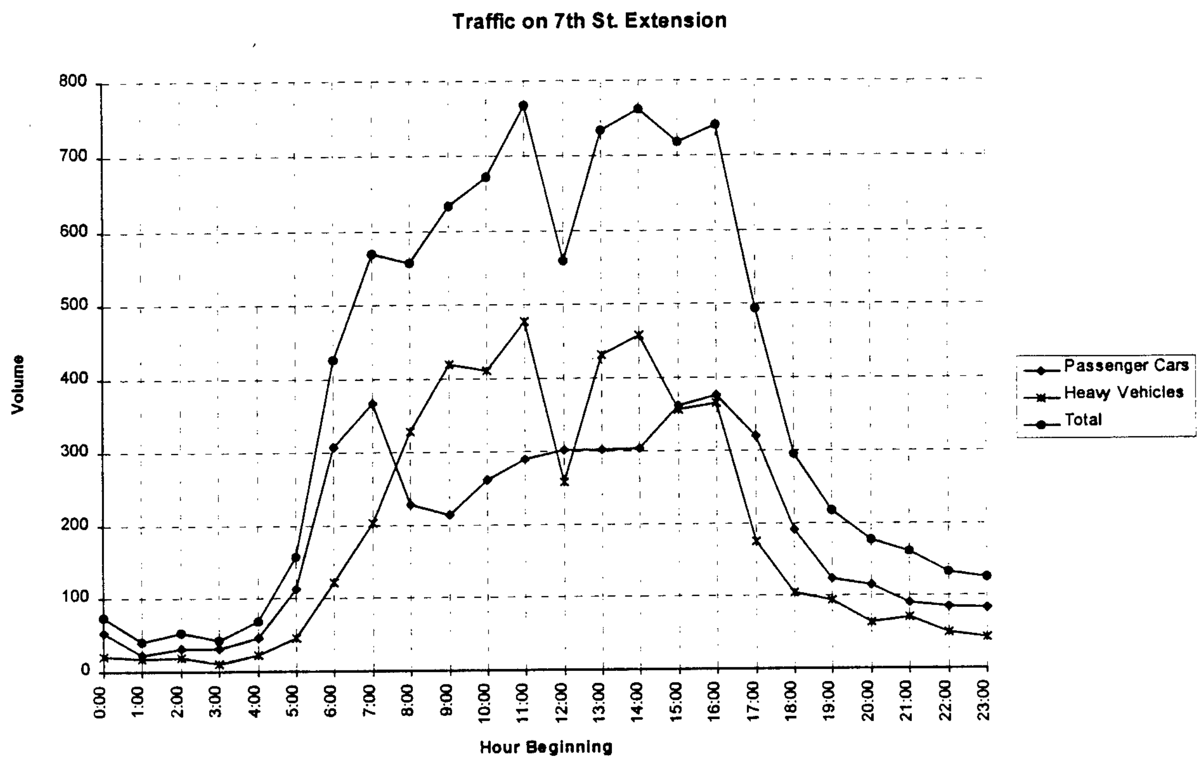


Traffic counts collected on June 6, 1996, by Wiltec.

Figure J.1-2



Traffic counts collected on June 6, 1996, by Wiltec.

Table J.1-1

FISCO/Port Vision 2000 EIS/EIR
Employment for Lease Areas 4 & 5

Tennant	Total FISCO Employment		Percent in Lease Areas 4 & 5	FISCO Employment in L.A. 4 & 5	
	1990	1996		1990	1996
AFGE	2	1	100%	2	1
Coast Guard	1	1	100%	1	1
Combat Log Gru 1	96	41	100%	96	41
DDOC	571	4	90%	514	4
DECA	62	4	100%	62	4
DFAS	0	183	100%	0	183
DISA	0	7	100%	0	7
DPSDO	38	21	100%	38	21
FAADCPAC	4	1	100%	4	1
Federal Credit Union	10	6	100%	10	6
FISC	780	290	100%	780	290
ISSOT	10	8	40%	4	3
JMSDF	1	1	100%	1	1
MSCPAC	455	442	95%	432	420
NAVMTO	6	0	100%	6	0
NAVSEA	2	0	0%	0	0
Navy Audit	1	0	100%	1	0
Navy Exchange	5	3	100%	5	3
NCIS	9	0	100%	9	0
NEX Fit Asst Team	0	0	0%	0	0
NRPEO	42	54	100%	42	54
NTCC	37	20	100%	37	20
Post Office	1	1	100%	1	1
PWCSFB	976	290	90%	878	261
ROICC	0	16	100%	0	16
VOA	156	73	50%	78	37
USNS A.J. Higgins*	117	58	100%	117	58
USNS Kawishiwi*	127	63	100%	127	63
USNS Mercy*	106	52	100%	106	52
USNS Observation*	60	30	100%	60	30
USS Kansas City*	479	236	100%	479	236
USS Wichita*	479	236	100%	479	236
USS class*	479	236	100%	479	236
USS class*	479	236	100%	479	236
TOTAL	5,591	2,614		5,327	2,522

* 1996 employment per ship in port was based on average reductions for all ships served.

SOURCES: Personnel Data from Marty Wolf of Radian International, Sacramento, and Ed Guldner of FISCO on June 19, 1996.

Table J.1-2

FISCO/Port Vision 2000 EIS/EIR
Trip Generation for FISCO

FISCO Access Location	Employees	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Maritime/7th Extension							
Non-Truck Traffic		522	111	633	117	319	436
Middle Harbor/Gate 2							
Total Traffic		414	128		261	449	
% Non-Trucks		87%	43%		23%	78%	
Non-Truck Traffic		360	55	415	60	350	410
Total Non-Truck Traffic		882	166	1,048	177	669	846
Employees							
FISCO							
Lease Areas 1, 2, & 3	92						
Lease Areas 4 & 5	2,522						
Total	2,614						
Port - Lease Areas 1-3	500						
Total Employees	3,114						
Trips per Employee		0.28	0.05	0.33	0.06	0.21	0.27
ITE Trip Generation Military Base (ITE 501)		-	-	0.39	-	-	0.39

Table J.1-3

FISCO/Port Vision 2000 EIS/EIR
VEHICLE TYPES
GATE 2 - FISCO ACCESS AT MIDDLE HARBOR ROAD

Hour Beginning	Inbound						Outbound					
	Cars, Pickups & Motorcycles	Single Unit Trucks & Buses	Single Trailer Trucks	Multi-Trailer Trucks	Total Heavy Vehicles	Total	Cars, Pickups & Motorcycles	Single Unit Trucks & Buses	Single Trailer Trucks	Multi-Trailer Trucks	Total Heavy Vehicles	Total
7:00	309	35	11	1	47	356	44	34	23	1	58	102
8:00	182	40	43	0	83	265	56	88	34	1	123	179
9:00	97	46	81	1	128	225	85	108	53	0	161	246
10:00	121	57	70	2	129	250	89	51	59	4	114	203
16:00	39	70	63	1	134	173	270	28	47	0	75	345

Traffic counts collected on June 6, 1996, by Wiltec.

Table J.1-4

FISCO/Port Vision 2000 EIS/EIR
VEHICLE PERCENTAGES
GATE 2 - FISCO ACCESS AT MIDDLE HARBOR ROAD

Period	Inbound					Outbound				
	Cars, Pickups & Motorcycles	Single Unit Trucks & Buses	Single Trailer Trucks	Multi-Trailer Trucks	Total Heavy Vehicles	Cars, Pickups & Motorcycles	Single Unit Trucks & Buses	Single Trailer Trucks	Multi-Trailer Trucks	Total Heavy Vehicles
07:00 - 08:00	87%	10%	3%	0%	13%	43%	33%	23%	1%	57%
08:00 - 09:00	69%	15%	16%	0%	31%	31%	49%	19%	1%	69%
09:00 - 10:00	43%	20%	36%	0%	57%	35%	44%	22%	0%	65%
10:00 - 11:00	48%	23%	28%	1%	52%	44%	25%	29%	2%	56%
16:00 - 17:00	23%	40%	36%	1%	77%	78%	8%	14%	0%	22%

Traffic counts collected on June 6, 1996, by Wiltec.

Table J.1-5
FISCO Employee Trip Distribution

Location	Residency	Commute Mode			Auto	Auto Trips		Route	% of Employees Served by Each Route					
		Solo 1.00	Carpool 0.47	Other 0.00	Factor	Number	%		I-80 E.	I-80 W.	Rt. 24	I-880	I-580 E.	Local
N. Alameda (Oakland)	313	74.6%	9.8%	12.4%	79.2%	248	34.1%							
S. Alameda (Hayward, Fremont	119	78.6%	14.3%	7.1%	85.3%	101	14.0%	I-580 E.					14.0%	
E. Alameda (Pleasanton, Livermore)	10	80.0%	20.0%	0.0%	89.3%	9	1.2%	I-580 E.					1.2%	
E. Contra Costa (I-680)	86	80.5%	15.9%	3.7%	87.9%	76	10.4%	Rt. 24			10.4%			
W. Contra Costa (Richmond, I-80)	107	79.2%	17.0%	3.8%	87.1%	93	12.8%	I-80 E.	12.8%					
Santa Clara County	15	73.3%	26.7%	0.0%	85.8%	13	1.8%	I-880				1.8%		
San Francisco, San Mateo Counties	58	76.8%	7.1%	16.1%	80.1%	46	6.4%	I-80 W.		6.4%				
Marin and Sonoma Counties	14	100.0%	0.0%	0.0%	100.0%	14	1.9%	I-80 E.	1.9%					
Solano, Napa, Yolo, Sacto Counties	136	64.9%	33.6%	0.7%	80.6%	110	15.1%	I-80 E.	15.1%					
San Joaquin Valley & Outlying	17	87.5%	12.5%	0.0%	93.3%	16	2.2%	I-580 E.					2.2%	
Total	875					726	100.0%							
Oakland Details (from Truck Survey)														
Civic Center	11						1.2%	I-880				1.2%		
Dimond	15						1.7%	I-580 E.					1.7%	
Elmwood	72						8.1%	I-880				8.1%		
Fruitvale	69						7.7%	I-880				7.7%		
Grand Lake	3						0.3%	Local						0.3%
Laurel	4						0.4%	Local						0.4%
Mills College	2						0.2%	Local						0.2%
North Oakland	17						1.9%	Local						1.9%
San Antonio	71						7.9%	Local						7.9%
West Oakland	41						4.6%	Local						4.6%
Subtotal %	305						34.1%							
Total %									30%	6%	10%	19%	19%	15%

SOURCES:
Fleet & Industrial Supply Center (158-1) employee Transportation Servey Results (BAAQMD, 1994)
Truck Survey - Marine Terminals and Railroad Intermodal Yards (Port of Oakland, 1993).

Table J.1-6
Port of Oakland Employee Trip Distribution

Location	Residency		Route	% of Employees Served by Each Route					
	Number	%		I-80 E.	I-80 W.	Rt. 24	I-880	I-580 E.	Local
Oakland (see details below)	369	27.4%							
Alameda	24	1.8%	Local						1.8%
Berkeley/Albany/Emeryville	22	1.6%	I-80 E.	1.6%					
San Leandro/San Lorenzo	89	6.6%	I-880				6.6%		
Piedmont	1	0.1%	I-580 E.					0.1%	
Hayward/Castro Valley	116	8.6%	I-580 E.					8.6%	
Fremont/Newark	38	2.8%	I-880				2.8%		
Union City	23	1.7%	I-880				1.7%		
Dublin/Livermore/Pleasanton	13	1.0%	I-580 E.					1.0%	
San Pablo/Pinole/Rodeo	43	3.2%	I-80 E.	3.2%					
Richmond	45	3.3%	I-80 E.	3.3%					
El Cerrito	5	0.4%	I-80 E.	0.4%					
Pittsburg/Antioch	28	2.1%	Rt. 24			2.1%			
Martinez/Concord	28	2.1%	Rt. 24			2.1%			
Walnut Creek/Orinda/Lafayette	8	0.6%	Rt. 24			0.6%			
Alamo/Danville/San Ramon	5	0.4%	Rt. 24			0.4%			
San Francisco	111	8.3%	I-80 W.		8.3%				
San Francisco Longshore *	112	8.3%	I-80 W.		8.3%				
San Mateo County	80	5.9%	I-80 W.		5.9%				
Santa Clara County	67	5.0%	I-880				5.0%		
Marin County	15	1.1%	I-80 E.	1.1%					
Napa/Sonoma Counties	20	1.5%	I-80 E.	1.5%					
Solano County	83	6.2%	I-80 E.	6.2%					
Total	1345	100.0%							
Oakland Details									
Civic Center	11	1.0%	I-880				1.0%		
Dimond	15	1.3%	I-580 E.					1.3%	
Elmwood	72	6.5%	I-880				6.5%		
Fruitvale	69	6.2%	I-880				6.2%		
Grand Lake	3	0.3%	Local						0.3%
Laurel	4	0.4%	Local						0.4%
Mills College	2	0.2%	Local						0.2%
North Oakland	17	1.5%	Local						1.5%
San Antonio	71	6.4%	Local						6.4%
West Oakland	41	3.7%	Local						3.7%
Subtotal %	305	27.4%							
Total %				17%	23%	5%	30%	11%	14%

* Added to show the effects of longshore workers who must report to the union hall in San Francisco before going to the Port. (Half of longshore workers typically report to San Francisco).

SOURCES:
1. *Truck Survey - Marine Terminals and Railroad Intermodal Yards* (Port of Oakland, 1993).
2. *Port of Oakland Maritime Economic Impact Study* (1990).
3. Meeting on June 14, 1996: Anne Whittington, Senior Port Strategic Planner (Economics), David Adams, Port Chief Warfinger, and Mark Bowman, Dowling Associates.

Table J.1-7
Truck Trips

Location	Residency		Inbound		Outbound		Route
	Number	%	Number	%	Number	%	
Oakland (see details below)	369	22.1%	489	32.4%	403	29.0%	
Alameda	24	1.4%	5	0.3%	6	0.4%	Local
Berkeley/Albany/Emeryville	22	1.3%	7	0.5%	8	0.6%	I-80 E.
Lan Leandro/San Lorenzo	89	5.3%	55	3.6%	48	3.5%	I-880 S.
Piedmont	1	0.1%		0.0%		0.0%	Local
Hayward/Castro Valley	116	6.9%	52	3.5%	43	3.1%	I-880/238
Fremont/Newark	38	2.3%	22	1.5%	13	0.9%	I-880 S.
Union City	23	1.4%	18	1.2%	25	1.8%	I-880 S.
Dublin/Livermore/Pleasanton	13	0.8%	2	0.1%	3	0.2%	I-880/238
San Pablo/Pinole/Rodeo	43	2.6%	14	0.9%	3	0.2%	I-80 E.
Richmond	45	2.7%	117	7.8%	92	6.6%	I-80 E.
El Cerrito	5	0.3%		0.0%		0.0%	I-80 E.
Pittsburg/Antioch	28	1.7%	7	0.5%	12	0.9%	Rt. 24
Martinez/Concord	28	1.7%	12	0.8%	8	0.6%	Rt. 24
Walnut Creek/Orinda/Lafayette	8	0.5%		0.0%		0.0%	Rt. 24
Alamo/Danville/San Ramon	5	0.3%	4	0.3%	1	0.1%	Rt. 24
San Francisco	111	6.6%	89	5.9%	76	5.5%	I-80 W.
San Mateo County	80	4.8%	36	2.4%	21	1.5%	I-80 W.
Santa Clara County	67	4.0%	80	5.3%	56	4.0%	I-880 S.
Marin County	15	0.9%	4	0.3%	4	0.3%	I-80 E.
Napa/Sonoma Counties	20	1.2%	14	0.9%	20	1.4%	I-80 E.
Solano County	83	5.0%	38	2.5%	23	1.7%	I-80 E.
Sacramento Area		0.0%	100	6.6%	65	4.7%	I-80 E.
San Joaquin/Stanislaus		0.0%	127	8.4%	100	7.2%	I-880/238
Fresno/Merced/Madera		0.0%	88	5.8%	76	5.5%	I-880/238
Kern/Kings/Tulare		0.0%	12	0.8%	8	0.6%	I-880/238
Santa Cruz County		0.0%	2	0.1%	5	0.4%	I-880 S.
Other California	375	22.4%	56	3.7%	49	3.5%	
Other States	59	3.5%	53	3.5%	48	3.5%	
Unknown	4	0.2%	4	0.3%	174	12.5%	
Total	1671	100.0%	1507	100.0%	1390	100.0%	
Oakland Details							
Civic Center	11	0.8%	18	1.2%	15	1.0%	I-880
Dimond	15	1.1%	24	1.6%	20	1.4%	I-880
Elmwood	72	5.2%	115	7.7%	95	6.8%	I-880
Fruitvale	69	5.0%	111	7.3%	91	6.6%	I-880
Grand Lake	3	0.2%	5	0.3%	4	0.3%	Local
Laurel	4	0.3%	6	0.4%	5	0.4%	Local
Mills College	2	0.1%	3	0.2%	3	0.2%	Local
North Oakland	17	1.2%	27	1.8%	22	1.6%	Local
San Antonio	71	5.1%	114	7.6%	94	6.7%	Local
West Oakland	41	3.0%	66	4.4%	54	3.9%	Local
Subtotal	305	22.1%	489	32.4%	403	29.0%	

SOURCE: *Truck Survey - Marine Terminals and Railroad Intermodal Yards* (Port of Oakland, March/April 1993)

Table J.1-8
Truck Routes

Location	Inbound Trips							Outbound Trips						
	I-80 E.	I-80 W.	Rt. 24	I-880	I-880/238	I-880 S.	Local	I-80 E.	I-80 W.	Rt. 24	I-880	I-880/238	I-880 S.	Local
Oakland (see details below)														
Alameda							5							6
Berkeley/Albany/Emeryville	7							8						
Lan Leandro/San Lorenzo						55							48	
Piedmont							0							0
Hayward/Castro Valley					52							43		
Fremont/Newark						22							13	
Union City						18							25	
Dublin/Livermore/Pleasanton					2							3		
San Pablo/Pinole/Rodeo	14							3						
Richmond	117							92						
El Cerrito	0							0						
Pittsburg/Antioch			7							12				
Martinez/Concord			12							8				
Walnut Creek/Orinda/Lafayette			0							0				
Alamo/Danville/San Ramon			4							1				
San Francisco		89							76					
San Mateo County		36							21					
Santa Clara County						80							56	
Marin County	4							4						
Napa/Sonoma Counties	14							20						
Solano County	38							23						
Sacramento Area	100							65						
San Joaquin/Stanislaus					127							100		
Fresno/Merced/Madera					88							76		
Kern/Kings/Tulare					12							8		
Santa Cruz County						2							5	
Other California														
Other States														
Unknown														
Oakland Details														
Civic Center				18							15			
Dimond				24							20			
Elmwood				115							95			
Fruitvale				111							91			
Grand Lake							5							4
Laurel							6							5
Mills College							3							3
North Oakland							27							22
San Antonio							114							94
West Oakland							66							54
Total Inbound/Outbound Trips	294	125	23	268	281	177	226	215	97	21	221	230	147	188
% of Total I/O Trips	21%	9%	2%	19%	20%	13%	16%	19%	9%	2%	20%	21%	13%	17%
% of Total Trips (In & Out)								20%	9%	2%	19%	20%	13%	17%

SOURCE: *Truck Survey - Marine Terminals and Railroad Intermodal Yards* (Port of Oakland, March/April 1993)

Table J.1-9

EXIST-AM.CMD   Fri Nov 1, 1996 15:46:20   Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	FISCO Areas	2805.00	Employees '90	0.28	0.05	785	140	925	100.0
	Zone 1 Subtotal					785	140	925	100.0
TOTAL						785	140	925	100.0

Table J.1-9

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 11	12	13	14	15	16
1	30.0	7.0	10.0	19.0	19.0	15.0

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Turning Movement Report
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Maritime St./ W. Grand WB Ramps													
Base	260	5	0	0	5	5	0	0	0	425	490	5	1195
Added	52	0	0	0	0	0	0	0	0	0	0	0	52
Total	312	5	0	0	5	5	0	0	0	425	490	5	1247
#2 Maritime St./ W. Grand EB Ramps													
Base	0	260	90	5	425	0	5	300	615	0	0	0	1700
Added	0	52	0	0	0	0	0	0	290	0	0	0	342
Total	0	312	90	5	425	0	5	300	905	0	0	0	2042
#3 Maritime St./ Burma St.													
Base	5	340	0	0	625	200	20	0	5	0	0	0	1195
Added	0	52	0	0	290	0	0	0	0	0	0	0	342
Total	5	392	0	0	915	200	20	0	5	0	0	0	1537
#4 Maritime St./ 14th St.													
Base	28	238	39	103	463	14	15	0	11	22	0	87	1020
Added	0	52	0	0	290	0	0	0	0	0	0	0	342
Total	28	290	39	103	753	14	15	0	11	22	0	87	1362
#5 Maritime St./ 7th St. Extension													
Base	184	340	0	0	205	338	70	0	41	0	0	0	1178
Added	0	0	0	0	0	290	52	0	0	0	0	0	342
Total	184	340	0	0	205	628	122	0	41	0	0	0	1520
#6 7th St./ 7th St. Extension													
Base	38	62	18	129	95	4	13	16	1	87	199	372	1034
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	38	62	18	129	95	4	13	16	1	87	199	372	1034
#7 Middle Harbor Rd./ Gate 2 Connection													
Base	55	0	73	0	0	0	0	184	49	365	555	0	1281
Added	0	0	88	0	0	0	0	0	0	495	0	0	583
Total	55	0	161	0	0	0	0	184	49	860	555	0	1864
#8 Adeline St./ 3rd St.													
Base	8	60	31	26	308	26	8	6	29	322	59	56	939
Added	0	35	53	0	495	0	0	0	0	0	0	0	583
Total	8	95	84	26	803	26	8	6	29	322	59	56	1522

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 1 Maritime St./ W. Grand WB Ramp	B	9.1	0.501	B	10.4	0.536	+ 1.251 D/V
# 2 Maritime St./ W. Grand EB Ramp	B	13.5	0.744	D	25.1	0.964	+11.637 D/V
# 3 Maritime St./ Burma St.	A	0.9	0.314	A	0.8	0.414	-0.116 D/V
# 4 Maritime St./ 14th St.	B	10.2	0.252	B	7.7	0.352	-2.445 D/V
# 5 Maritime St./ 7th St. Extensio	B	8.8	0.455	B	11.1	0.726	+ 2.312 D/V
# 6 7th St./ 7th St. Extension	B	11.9	0.431	B	11.9	0.431	+ 0.000 D/V
# 7 Middle Harbor Rd./ Gate 2 Conn	B	8.5	0.392	B	13.1	0.803	+ 4.645 D/V
# 8 Adeline St./ 3rd St.	C	15.3	0.423	C	17.1	0.634	+ 1.757 D/V

Table J.1-9 (Continued)

```
EXIST-AM.CMD              Fri Nov 1, 1996 15:46:20                   Page 5-1
-------------------------------------------------------------------------------
                          FISCO/Port Vision 2000 EIS/EIR
                                Existing Conditions
                                   AM Peak Hour
-------------------------------------------------------------------------------

                        Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #1 Maritime St./ W. Grand WB Ramps
*******************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.536
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      10.4
Optimal Cycle:        49              Level Of Service:                  B
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected         Protected        Protected
Rights:          Include          Include           Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       1  0  1  0  0    0  0  1  0  1    0  0  0  0  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     260    5     0     0    5     5     0    0     0   425  490     5
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  260    5     0     0    5     5     0    0     0   425  490     5
Added Vol:     52    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  312    5     0     0    5     5     0    0     0   425  490     5
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   312    5     0     0    5     5     0    0     0   425  490     5
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  312    5     0     0    5     5     0    0     0   425  490     5
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   312    5     0     0    5     5     0    0     0   425  490     5
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.77 0.81  1.00  1.00 0.81  0.69  1.00 1.00  1.00  0.81 0.81  0.81
Lanes:       1.00 1.00  0.00  0.00 1.00  1.00  0.00 0.00  0.00  1.00 0.99  0.01
Final Sat.:  1467 1545     0     0 1545  1313     0    0     0  1545 1529    16
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.00  0.00  0.00 0.00  0.00  0.00 0.00  0.00  0.28 0.32  0.32
Crit Moves:  ****                  ****                              ****
Green/Cycle: 0.40 0.40  0.00  0.00 0.01  0.01  0.00 0.00  0.00  0.60 0.60  0.60
Volume/Cap:  0.54 0.01  0.00  0.00 0.54  0.63  0.00 0.00  0.00  0.46 0.54  0.54
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   15.7 11.6   0.0   0.0 62.0  88.4   0.0  0.0   0.0   7.5  8.2   8.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  15.7 11.6   0.0   0.0 62.0  88.4   0.0  0.0   0.0   7.5  8.2   8.2
Queue:          7    0     0     0    0     0     0    0     0     7    8     0
*******************************************************************************
```

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #2 Maritime St./ W. Grand EB Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.964
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	25.1
Optimal Cycle:	180	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 1 1 0			1 0 1 0 0			1 0 1 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	0	260	90	5	425	0	5	300	615	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	260	90	5	425	0	5	300	615	0	0	0
Added Vol:	0	52	0	0	0	0	0	0	290	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	312	90	5	425	0	5	300	905	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	312	90	5	425	0	5	300	905	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	312	90	5	425	0	5	300	905	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	327	95	5	425	0	5	300	905	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.79	0.79	0.77	0.81	1.00	0.69	0.81	0.69	1.00	1.00	1.00
Lanes:	0.00	1.55	0.45	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	0	2322	675	1467	1545	0	1313	1545	1313	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.14	0.00	0.28	0.00	0.00	0.19	0.69	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.00	0.28	0.28	0.01	0.29	0.00	0.71	0.71	0.71	0.00	0.00	0.00
Volume/Cap:	0.00	0.51	0.51	0.51	0.96	0.00	0.01	0.27	0.96	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	0.0	20.0	20.0	55.7	47.7	0.0	2.6	3.3	24.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.0	20.0	55.7	47.7	0.0	2.6	3.3	24.1	0.0	0.0	0.0
Queue:	0	8	2	0	16	0	0	3	28	0	0	0

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 | Critical Vol./Cap. (X): 0.414
Loss Time (sec): 0 (Y+R = 4 sec) | Average Delay (sec/veh): 0.8
Optimal Cycle: 39 | Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	5	340	0	0	625	200	20	0	5	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	340	0	0	625	200	20	0	5	0	0	0
Added Vol:	0	52	0	0	290	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	392	0	0	915	200	20	0	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	392	0	0	915	200	20	0	5	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	392	0	0	915	200	20	0	5	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	411	0	0	961	210	20	0	5	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.80	1.00	1.00	0.78	0.78	0.76	1.00	0.68	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.64	0.36	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1444	3040	0	1900	2420	529	1444	0	1292	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.00	0.00	0.40	0.40	0.01	0.00	0.00	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.01	0.97	0.00	0.00	0.96	0.96	0.03	0.00	0.03	0.00	0.00	0.00
Volume/Cap:	0.41	0.14	0.00	0.00	0.41	0.41	0.41	0.00	0.12	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	42.5	0.0	0.0	0.0	0.2	0.2	33.8	0.0	30.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	0.0	0.0	0.0	0.2	0.2	33.8	0.0	30.3	0.0	0.0	0.0
Queue:	0	0	0	0	2	0	1	0	0	0	0	0

Table J.1-9 (Continued)

EXIST-AM.CMD Fri Nov 1, 1996 15:46:20 Page 8-1

Traffix 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.352
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.7
Optimal Cycle:	29	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	28	238	39	103	463	14	15	0	11	22	0	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	238	39	103	463	14	15	0	11	22	0	87
Added Vol:	0	52	0	0	290	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	290	39	103	753	14	15	0	11	22	0	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	290	39	103	753	14	15	0	11	22	0	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	290	39	103	753	14	15	0	11	22	0	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	28	304	41	103	791	15	15	0	11	22	0	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.78	0.78	0.76	0.80	0.80	0.58	1.00	0.58	0.74	1.00	0.68
Lanes:	1.00	1.76	0.24	1.00	1.96	0.04	0.58	0.00	0.42	1.00	0.00	1.00
Final Sat.:	1444	2625	354	1444	2983	57	641	0	470	1414	0	1292
Capacity Analysis Module:												
Vol/Sat:	0.02	0.12	0.12	0.07	0.27	0.27	0.02	0.00	0.02	0.02	0.00	0.07
Crit Moves:	****				****							****
Green/Cycle:	0.06	0.50	0.50	0.31	0.75	0.75	0.19	0.00	0.19	0.19	0.00	0.19
Volume/Cap:	0.35	0.23	0.23	0.23	0.35	0.35	0.12	0.00	0.12	0.08	0.00	0.35
Level Of Service Module:												
Delay/Veh:	30.5	9.1	9.1	16.7	2.7	2.7	21.6	0.0	21.6	21.5	0.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	9.1	9.1	16.7	2.7	2.7	21.6	0.0	21.6	21.5	0.0	23.0
Queue:	1	5	1	2	7	0	0	0	0	1	0	2

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.726
Loss Time (sec): 0 (Y+R = 4 sec) — Average Delay (sec/veh): 11.1
Optimal Cycle: 83 — Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	184	340	0	0	205	338	70	0	41	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	184	340	0	0	205	338	70	0	41	0	0	0
Added Vol:	0	0	0	0	0	290	52	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	340	0	0	205	628	122	0	41	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	184	340	0	0	205	628	122	0	41	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	340	0	0	205	628	122	0	41	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	184	357	0	0	205	628	122	0	41	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.73	0.77	1.00	1.00	0.77	0.65	0.73	1.00	0.65	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1388	2923	0	0	1462	1242	1388	0	1242	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.00	0.00	0.14	0.51	0.09	0.00	0.03	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.18	0.88	0.00	0.00	0.70	0.70	0.12	0.00	0.12	0.00	0.00	0.00
Volume/Cap:	0.73	0.14	0.00	0.00	0.20	0.73	0.73	0.00	0.27	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	31.6	0.5	0.0	0.0	3.5	7.7	37.0	0.0	26.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.6	0.5	0.0	0.0	3.5	7.7	37.0	0.0	26.1	0.0	0.0	0.0
Queue:	5	1	0	0	2	11	4	0	1	0	0	0

Table J.1-9 (Continued)

```
EXIST-AM.CMD          Fri Nov 1, 1996 15:46:20            Page 10-1
-----------------------------------------------------------------------------
                   FISCO/Port Vision 2000 EIS/EIR
                        Existing Conditions
                           AM Peak Hour
-----------------------------------------------------------------------------
                  Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #6 7th St./ 7th St. Extension
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.431
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):       11.9
Optimal Cycle:       40              Level Of Service:                  B
*****************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       1  0  1  1  0   1  0  1  1  0   1  0  2  1  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     38   62   18   129   95    4    13   16    1    87  199  372
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  38   62   18   129   95    4    13   16    1    87  199  372
Added Vol:     0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  38   62   18   129   95    4    13   16    1    87  199  372
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   38   62   18   129   95    4    13   16    1    87  199  372
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  38   62   18   129   95    4    13   16    1    87  199  372
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.05 1.05  1.00 1.05 1.05  1.00 1.10 1.10  1.00 1.05 1.00
Final Vol.:   38   65   19   129  100    4    13   18    1    87  209  372
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.73 0.75 0.75  0.73 0.76 0.76  0.73 0.76 0.76  0.73 0.77 0.65
Lanes:       1.00 1.55 0.45  1.00 1.92 0.08  1.00 2.84 0.16  1.00 2.00 1.00
Final Sat.:  1388 2194  641  1388 2783  111  1388 4112  228  1388 2923 1242
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.03 0.03  0.09 0.04 0.04  0.01 0.00 0.00  0.06 0.07 0.30
Crit Moves:       ****       ****            ****                       ****
Green/Cycle: 0.12 0.07 0.07  0.22 0.16 0.16  0.02 0.05 0.05  0.67 0.69 0.69
Volume/Cap:  0.22 0.43 0.43  0.43 0.22 0.22  0.43 0.09 0.09  0.09 0.10 0.43
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   25.7 29.8 29.8  22.6 23.6 23.6  36.8 29.5 29.5   3.8  3.3  4.5
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  25.7 29.8 29.8  22.6 23.6 23.6  36.8 29.5 29.5   3.8  3.3  4.5
Queue:          1    2    1     3    2    0     0    0    0     1    2    5
*****************************************************************************
```

Table J.1-9 (Continued)

```
EXIST-AM.CMD              Fri Nov 1, 1996 15:46:20              Page 11-1
---------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                             Existing Conditions
                                AM Peak Hour
---------------------------------------------------------------------------
                      Level Of Service Computation Report
             1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #7 Middle Harbor Rd./ Gate 2 Connection
***************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.803
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      13.1
Optimal Cycle:      116              Level Of Service:                  B
***************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        1  0  0  0  1   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55    0   73     0    0    0     0  184   49   365  555    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   55    0   73     0    0    0     0  184   49   365  555    0
Added Vol:      0    0   88     0    0    0     0    0    0   495    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   55    0  161     0    0    0     0  184   49   860  555    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    55    0  161     0    0    0     0  184   49   860  555    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   55    0  161     0    0    0     0  184   49   860  555    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.05 1.05  1.00 1.05 1.00
Final Vol.:    55    0  161     0    0    0     0  193   51   860  583    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.76 1.00 0.68  1.00 1.00 1.00  1.00 0.78 0.78  0.76 0.80 1.00
Lanes:       1.00 0.00 1.00  0.00 0.00 0.00  0.00 1.58 0.42  1.00 2.00 0.00
Final Sat.:  1444    0 1292     0    0    0     0 2332  616  1444 3040    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.00 0.12  0.00 0.00 0.00  0.00 0.08 0.08  0.60 0.19 0.00
Crit Moves:             ****                       ****       ****
Green/Cycle: 0.16 0.00 0.16  0.00 0.00 0.00  0.00 0.10 0.10  0.74 0.84 0.00
Volume/Cap:  0.25 0.00 0.80  0.00 0.00 0.00  0.00 0.80 0.80  0.80 0.23 0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   24.1  0.0 40.1   0.0  0.0  0.0   0.0 38.1 38.1   8.5  1.0  0.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  24.1  0.0 40.1   0.0  0.0  0.0   0.0 38.1 38.1   8.5  1.0  0.0
Queue:          1    0    5     0    0    0     0    6    2    16    3    0
***************************************************************************
```

Table J.1-9 (Continued)

```
EXIST-AM.CMD              Fri Nov 1, 1996 15:46:20                 Page 12-1
-------------------------------------------------------------------------------
                          FISCO/Port Vision 2000 EIS/EIR
                               Existing Conditions
                                  AM Peak Hour
-------------------------------------------------------------------------------
                        Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #8 Adeline St./ 3rd St.
*******************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):         0.634
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):        17.1
Optimal Cycle:        62               Level Of Service:                   C
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  1  0  1  0   0  1  0  1  0   0  1  0  1  0   0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      8   60    31   26  308    26    8    6    29  322   59    56
Growth Adj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   8   60    31   26  308    26    8    6    29  322   59    56
Added Vol:     0   35    53    0  495     0    0    0     0    0    0     0
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   8   95    84   26  803    26    8    6    29  322   59    56
User Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    8   95    84   26  803    26    8    6    29  322   59    56
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   8   95    84   26  803    26    8    6    29  322   59    56
PCE Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:    1.05 1.05  1.05 1.05 1.05  1.05 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:    8  100    88   27  843    27    8    6    29  322   59    56
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.72 0.72  0.72 0.77 0.77  0.77 0.75 0.75  0.65 0.73 0.72  0.72
Lanes:      0.08 1.02  0.90 0.06 1.88  0.06 0.57 0.43  1.00 1.00 0.51  0.49
Final Sat.:  111 1387  1221   88 2747    88  810  608  1242 1388  697   662
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.07 0.07  0.07 0.31 0.31  0.31 0.01 0.01  0.02 0.23 0.08  0.08
Crit Moves:      ****              ****              ****  ****
Green/Cycle: 0.11 0.11 0.11 0.48 0.48  0.48 0.04 0.04  0.04 0.37 0.37  0.37
Volume/Cap: 0.63 0.63  0.63 0.63 0.63  0.63 0.27 0.27  0.63 0.63 0.23  0.23
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:  30.3 30.3  30.3 13.1 13.1  13.1 30.5 30.5  42.3 18.3 14.2  14.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 30.3 30.3  30.3 13.1 13.1  13.1 30.5 30.5  42.3 18.3 14.2  14.2
Queue:         0    3     3    1   18     1    0    0     1    8    1     1
*******************************************************************************
```

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Table J.1-9 (Continued)

EXIST-PM.CMD Fri Nov 1, 1996 15:45:58 Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	FISCO Areas	2805.00	Employees '90	0.06	0.21	168	589	757	100.0
	Zone 1 Subtotal					168	589	757	100.0
TOTAL						168	589	757	100.0

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

	To Gates					
Zone	11	12	13	14	15	16
1	30.0	7.0	10.0	19.0	19.0	15.0

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
PM Peak Hour

Turning Movement Report
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Maritime St./ W. Grand WB Ramps													
Base	820	10	0	0	10	5	0	0	0	95	490	5	1435
Added	218	0	0	0	0	0	0	0	0	0	0	0	218
Total	1038	10	0	0	10	5	0	0	0	95	490	5	1653
#2 Maritime St./ W. Grand EB Ramps													
Base	0	825	265	5	100	0	5	255	215	0	0	0	1670
Added	0	218	0	0	0	0	0	0	62	0	0	0	280
Total	0	1043	265	5	100	0	5	255	277	0	0	0	1950
#3 Maritime St./ Burma St.													
Base	5	905	0	0	320	5	185	0	50	0	0	0	1470
Added	0	218	0	0	62	0	0	0	0	0	0	0	280
Total	5	1123	0	0	382	5	185	0	50	0	0	0	1750
#4 Maritime St./ 14th St.													
Base	34	601	28	105	252	14	19	0	36	92	0	290	1471
Added	0	218	0	0	62	0	0	0	0	0	0	0	280
Total	34	819	28	105	314	14	19	0	36	92	0	290	1751
#5 Maritime St./ 7th St. Extension													
Base	41	365	0	0	380	76	226	0	93	0	0	0	1181
Added	0	0	0	0	0	62	218	0	0	0	0	0	280
Total	41	365	0	0	380	138	444	0	93	0	0	0	1461
#6 7th St./ 7th St. Extension													
Base	9	120	45	327	117	6	73	141	42	28	48	153	1109
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	120	45	327	117	6	73	141	42	28	48	153	1109
#7 Middle Harbor Rd./ Gate 2 Connection													
Base	102	0	347	0	0	0	0	421	133	128	257	0	1388
Added	0	0	371	0	0	0	0	0	0	106	0	0	477
Total	102	0	718	0	0	0	0	421	133	234	257	0	1865
#8 Adeline St./ 3rd St.													
Base	36	340	122	43	41	15	30	14	13	89	39	78	860
Added	0	147	224	0	106	0	0	0	0	0	0	0	477
Total	36	487	346	43	147	15	30	14	13	89	39	78	1337

Table J.1-9 (Continued)

EXIST-PM.CMD Fri Nov 1, 1996 15:45:58 Page 4-1

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 1 Maritime St./ W. Grand WB Ramp	C	22.7	0.886	E	47.8	1.034	+25.048 D/V
# 2 Maritime St./ W. Grand EB Ramp	B	9.3	0.554	B	10.5	0.673	+ 1.157 D/V
# 3 Maritime St./ Burma St.	B	6.3	0.441	B	5.6	0.516	-0.638 D/V
# 4 Maritime St./ 14th St.	B	14.3	0.516	B	13.7	0.590	-0.641 D/V
# 5 Maritime St./ 7th St. Extensio	B	10.7	0.361	B	13.3	0.543	+ 2.655 D/V
# 6 7th St./ 7th St. Extension	C	17.5	0.473	C	17.5	0.473	+ 0.000 D/V
# 7 Middle Harbor Rd./ Gate 2 Conn	B	14.7	0.557	D	28.4	0.917	+13.722 D/V
# 8 Adeline St./ 3rd St.	B	13.7	0.320	B	13.1	0.505	-0.601 D/V

Table J.1-9 (Continued)


```
EXIST-PM.CMD             Fri Nov 1, 1996 15:45:58                    Page 5-1
--------------------------------------------------------------------------------
                         FISCO/Port Vision 2000 EIS/EIR
                              Existing Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Maritime St./ W. Grand WB Ramps
********************************************************************************
Cycle (sec):        100            Critical Vol./Cap. (X):         1.034
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     47.8
Optimal Cycle:      180            Level Of Service:                  E
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        1  0  1  0  0    0  0  1  0  1    0  0  0  0  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     820   10    0     0   10    5     0    0    0    95  490    5
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  820   10    0     0   10    5     0    0    0    95  490    5
Added Vol:    218    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut: 1038   10    0     0   10    5     0    0    0    95  490    5
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:  1038   10    0     0   10    5     0    0    0    95  490    5
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol: 1038   10    0     0   10    5     0    0    0    95  490    5
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Final Vol.:  1038   10    0     0   10    5     0    0    0    95  490    5
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.77 0.81 1.00  1.00 0.81 0.69  1.00 1.00 1.00  0.81 0.81 0.81
Lanes:       1.00 1.00 0.00  0.00 1.00 1.00  0.00 0.00 0.00  1.00 0.99 0.01
Final Sat.:  1467 1545    0     0 1545 1313     0    0    0  1545 1529   16
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.71 0.01 0.00  0.00 0.01 0.00  0.00 0.00 0.00  0.06 0.32 0.32
Crit Moves:  ****                  ****                               ****
Green/Cycle: 0.68 0.69 0.00  0.00 0.01 0.01  0.00 0.00 0.00  0.31 0.31 0.31
Volume/Cap:  1.03 0.01 0.00  0.00 1.03 0.61  0.00 0.00 0.00  0.20 1.03 1.03
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   41.1  3.1  0.0   0.0  281 81.0   0.0  0.0  0.0  16.4 63.6 63.6
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  41.1  3.1  0.0   0.0  281 81.0   0.0  0.0  0.0  16.4 63.6 63.6
Queue:         42    0    0     0    1    0     0    0    0     2   21    1
********************************************************************************
```

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #2 Maritime St./ W. Grand EB Ramps

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.673
Loss Time (sec): 0 (Y+R = 4 sec) — Average Delay (sec/veh): 10.5
Optimal Cycle: 70 — Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1	1 0	1 0	1	0 0	1 0	1	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	825	265	5	100	0	5	255	215	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	825	265	5	100	0	5	255	215	0	0	0
Added Vol:	0	218	0	0	0	0	0	0	62	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1043	265	5	100	0	5	255	277	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1043	265	5	100	0	5	255	277	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1043	265	5	100	0	5	255	277	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1095	278	5	100	0	5	255	277	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.79	0.79	0.77	0.81	1.00	0.69	0.81	0.69	1.00	1.00	1.00
Lanes:	0.00	1.60	0.40	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	0	2390	607	1467	1545	0	1313	1545	1313	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.46	0.46	0.00	0.06	0.00	0.00	0.17	0.21	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green/Cycle:	0.00	0.68	0.68	0.01	0.69	0.00	0.31	0.31	0.31	0.00	0.00	0.00
Volume/Cap:	0.00	0.67	0.67	0.67	0.09	0.00	0.01	0.53	0.67	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	0.0	6.7	6.7	104.0	3.4	0.0	15.3	19.1	22.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.7	6.7	104.0	3.4	0.0	15.3	19.1	22.2	0.0	0.0	0.0
Queue:	0	18	5	0	1	0	0	6	7	0	0	0

Table J.1-9 (Continued)

```
EXIST-PM.CMD            Fri Nov 1, 1996 15:45:58                 Page 7-1          Traffix 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland
--------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                              Existing Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------

                       Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Maritime St./ Burma St.
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):         0.516
Loss Time (sec):        0 (Y+R =  4 sec) Average Delay (sec/veh):        5.6
Optimal Cycle:         47              Level Of Service:                   B
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      5  905     0     0  320     5   185    0    50     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   5  905     0     0  320     5   185    0    50     0    0     0
Added Vol:     0  218     0     0   62     0     0    0     0     0    0     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   5 1123     0     0  382     5   185    0    50     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    5 1123     0     0  382     5   185    0    50     0    0     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   5 1123     0     0  382     5   185    0    50     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05  1.00 1.05  1.05  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:    5 1179     0     0  401     5   185    0    50     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.76 0.80  1.00  1.00 0.80  0.80  0.76 1.00  0.68  1.00 1.00  1.00
Lanes:       1.00 2.00  0.00  1.00 1.98  0.02  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1444 3040     0  1900 3003    37  1444    0  1292     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.39  0.00  0.00 0.13  0.13  0.13 0.00  0.04  0.00 0.00  0.00
Crit Moves:       ****        ****              ****
Green/Cycle: 0.02 0.75  0.00  0.00 0.73  0.73  0.25 0.00  0.25  0.00 0.00  0.00
Volume/Cap:  0.18 0.52  0.00  0.00 0.18  0.18  0.52 0.00  0.16  0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   31.6  3.4   0.0   0.0  2.7   2.7  22.0  0.0  19.0   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  31.6  3.4   0.0   0.0  2.7   2.7  22.0  0.0  19.0   0.0  0.0   0.0
Queue:          0   13     0     0    3     0     5    0     1     0    0     0
********************************************************************************
```

Table J.1-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec): 100 | Critical Vol./Cap. (X): 0.590
Loss Time (sec): 0 (Y+R = 4 sec) | Average Delay (sec/veh): 13.7
Optimal Cycle: 45 | Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	34	601	28	105	252	14	19	0	36	92	0	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	601	28	105	252	14	19	0	36	92	0	290
Added Vol:	0	218	0	0	62	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	819	28	105	314	14	19	0	36	92	0	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	819	28	105	314	14	19	0	36	92	0	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	819	28	105	314	14	19	0	36	92	0	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	34	860	29	105	330	15	19	0	36	92	0	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.80	0.80	0.76	0.79	0.79	0.51	1.00	0.51	0.66	1.00	0.68
Lanes:	1.00	1.93	0.07	1.00	1.91	0.09	0.35	0.00	0.65	1.00	0.00	1.00
Final Sat.:	1444	2941	99	1444	2879	131	332	0	629	1262	0	1292
Capacity Analysis Module:												
Vol/Sat:	0.02	0.29	0.29	0.07	0.11	0.11	0.06	0.00	0.06	0.07	0.00	0.22
Crit Moves:		****		****								****
Green/Cycle:	0.11	0.50	0.50	0.12	0.51	0.51	0.38	0.00	0.38	0.38	0.00	0.38
Volume/Cap:	0.22	0.59	0.59	0.59	0.22	0.22	0.15	0.00	0.15	0.19	0.00	0.59
Level Of Service Module:												
Delay/Veh:	26.6	12.1	12.1	30.4	8.6	8.6	13.2	0.0	13.2	13.4	0.0	17.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.6	12.1	12.1	30.4	8.6	8.6	13.2	0.0	13.2	13.4	0.0	17.3
Queue:	1	17	1	3	5	0	0	0	1	2	0	7

Table J.1-9 (Continued)

```
EXIST-PM.CMD             Fri Nov 1, 1996 15:45:58                Page 9-1
------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                              Existing Conditions
                                 PM Peak Hour
------------------------------------------------------------------------------
                      Level Of Service Computation Report
            1994 HCM Operations Method (Future Volume Alternative)
******************************************************************************
Intersection #5 Maritime St./ 7th St. Extension
******************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):         0.543
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):       13.3
Optimal Cycle:        50              Level Of Service:                  B
******************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Lanes:       1  0  1  1  0    0  0  1  1  0    1  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      41   365     0     0   380    76   226     0    93     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   41   365     0     0   380    76   226     0    93     0     0     0
Added Vol:      0     0     0     0     0    62   218     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   41   365     0     0   380   138   444     0    93     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    41   365     0     0   380   138   444     0    93     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   41   365     0     0   380   138   444     0    93     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.05  1.05  1.00  1.05  1.05  1.00  1.00  1.00  1.00  1.00  1.00
Final Vol.:    41   383     0     0   399   145   444     0    93     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.73  0.77  1.00  1.00  0.74  0.74  0.73  1.00  0.65  1.00  1.00  1.00
Lanes:       1.00  2.00  0.00  0.00  1.47  0.53  1.00  0.00  1.00  0.00  0.00  0.00
Final Sat.:  1388  2923     0     0  2058   748  1388     0  1242     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03  0.13  0.00  0.00  0.19  0.19  0.32  0.00  0.07  0.00  0.00  0.00
Crit Moves:  ****                    ****        ****
Green/Cycle: 0.05  0.41  0.00  0.00  0.36  0.36  0.59  0.00  0.59  0.00  0.00  0.00
Volume/Cap:  0.54  0.32  0.00  0.00  0.54  0.54  0.54  0.00  0.13  0.00  0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   35.5  12.9   0.0   0.0  17.1  17.1   8.6   0.0   5.9   0.0   0.0   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  35.5  12.9   0.0   0.0  17.1  17.1   8.6   0.0   5.9   0.0   0.0   0.0
Queue:          1     7     0     0     9     3     8     0     1     0     0     0
******************************************************************************
```

Table J.1-9 (Continued)

```
EXIST-PM.CMD          Fri Nov 1, 1996 15:45:58          Page 10-1
---------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                          Existing Conditions
                             PM Peak Hour
---------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #6 7th St./ 7th St. Extension
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.473
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      17.5
Optimal Cycle:        43              Level Of Service:                 C
***************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       1  0  1  1  0    1  0  1  1  0    1  0  2  1  0    1  0  2  0  1
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9   120    45   327   117     6    73   141    42    28    48   153
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    9   120    45   327   117     6    73   141    42    28    48   153
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    9   120    45   327   117     6    73   141    42    28    48   153
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     9   120    45   327   117     6    73   141    42    28    48   153
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    9   120    45   327   117     6    73   141    42    28    48   153
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.05  1.05  1.00  1.05  1.05  1.00  1.10  1.10  1.00  1.05  1.00
Final Vol.:     9   126    47   327   123     6    73   155    46    28    50   153
-----------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.73  0.74  0.74  0.73  0.76  0.76  0.73  0.75  0.75  0.73  0.77  0.65
Lanes:       1.00  1.46  0.54  1.00  1.91  0.09  1.00  2.31  0.69  1.00  2.00  1.00
Final Sat.:  1388  2044   762  1388  2759   135  1388  3280   973  1388  2923  1242
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01  0.06  0.06  0.24  0.04  0.04  0.05  0.05  0.05  0.02  0.02  0.12
Crit Moves:        ****        ****              ****                          ****
Green/Cycle: 0.08  0.13  0.13  0.50  0.55  0.55  0.11  0.26  0.26  0.11  0.26  0.26
Volume/Cap:  0.08  0.47  0.47  0.47  0.08  0.08  0.47  0.18  0.18  0.18  0.07  0.47
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   27.5  26.8  26.8  11.0   6.9   6.9  28.7  18.6  18.6  26.1  18.0  21.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  27.5  26.8  26.8  11.0   6.9   6.9  28.7  18.6  18.6  26.1  18.0  21.0
Queue:          0     3     1     6     2     0     2     3     1     1     1     4
***************************************************************************
```

Table J.1-9 (Continued)


```
--------------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                         Existing Conditions
                            PM Peak Hour
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Middle Harbor Rd./ Gate 2 Connection
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.917
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):       28.4
Optimal Cycle:      180               Level Of Service:                 D
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  0  0  1   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     102    0   347     0    0     0     0  421   133   128  257     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  102    0   347     0    0     0     0  421   133   128  257     0
Added Vol:      0    0   371     0    0     0     0    0     0   106    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  102    0   718     0    0     0     0  421   133   234  257     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   102    0   718     0    0     0     0  421   133   234  257     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  102    0   718     0    0     0     0  421   133   234  257     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.05  1.00 1.05  1.00
Final Vol.:   102    0   718     0    0     0     0  442   140   234  270     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.76 1.00  0.68  1.00 1.00  1.00  1.00 0.77  0.77  0.76 0.80  1.00
Lanes:       1.00 0.00  1.00  0.00 0.00  0.00  0.00 1.52  0.48  1.00 2.00  0.00
Final Sat.:  1444    0  1292     0    0     0     0 2216   702  1444 3040     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.00  0.56  0.00 0.00  0.00  0.00 0.20  0.20  0.16 0.09  0.00
Crit Moves:             ****                        ****        ****
Green/Cycle: 0.61 0.00  0.61  0.00 0.00  0.00  0.00 0.22  0.22  0.18 0.39  0.00
Volume/Cap:  0.12 0.00  0.92  0.00 0.00  0.00  0.00 0.92  0.92  0.92 0.23  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    5.4  0.0  22.5   0.0  0.0   0.0   0.0 37.9  37.9  51.0 13.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   5.4  0.0  22.5   0.0  0.0   0.0   0.0 37.9  37.9  51.0 13.0   0.0
Queue:          1    0    21     0    0     0     0   15     6     9    5     0
********************************************************************************
```

Table J.1-9 (Continued)

```
EXIST-PM.CMD              Fri Nov 1, 1996 15:45:58              Page 12-1
-----------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                             Existing Conditions
                                PM Peak Hour
-----------------------------------------------------------------------------
                       Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #8 Adeline St./ 3rd St.
*****************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):        0.505
Loss Time (sec):        0 (Y+R =  4 sec) Average Delay (sec/veh):      13.1
Optimal Cycle:         46              Level Of Service:                 B
*****************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:         0  1  0  1  0   0  1  0  1  0   0  1  0  1  0   0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36  340   122    43   41    15    30   14    13    89   39    78
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36  340   122    43   41    15    30   14    13    89   39    78
Added Vol:      0  147   224     0  106     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   36  487   346    43  147    15    30   14    13    89   39    78
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36  487   346    43  147    15    30   14    13    89   39    78
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36  487   346    43  147    15    30   14    13    89   39    78
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.05 1.05  1.05  1.05 1.05  1.05  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:    38  512   363    45  154    16    30   14    13    89   39    78
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.72 0.72  0.72  0.75 0.75  0.75  0.73 0.72  0.72  0.73 0.69  0.69
Lanes:       0.08 1.12  0.80  0.42 1.43  0.15  1.00 0.52  0.48  0.84 0.39  0.77
Final Sat.:   114 1541  1092   600 2052   213  1388  705   654  1163  510  1019
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.33 0.33  0.33  0.08 0.08  0.08  0.02 0.02  0.02  0.08 0.08  0.08
Crit Moves:       ****             ****        ****                         ****
Green/Cycle: 0.66 0.66  0.66  0.15 0.15  0.15  0.04 0.04  0.04  0.15 0.15  0.15
Volume/Cap:  0.51 0.51  0.51  0.51 0.51  0.51  0.51 0.46  0.46  0.51 0.51  0.51
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    5.9  5.9   5.9  26.2 26.2  26.2  33.3 32.2  32.2  26.1 26.1  26.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   5.9  5.9   5.9  26.2 26.2  26.2  33.3 32.2  32.2  26.1 26.1  26.1
Queue:          1    7     5     1    4     1     1    0     0     2    1     2
*****************************************************************************
```

Traffix 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland

Table J.1-10

FISCO/Port Vision 2000 EIS/EIR
Train Traffic At Roadway Crossings
Existing Weekdays (After UP/SP Merger)

Crossing Street	Number of Trains in Both Directions						Train Speed (mph)	
	Passenger *		Freignt *		Switchers *	Total	Passenger	Freight/ Switchers
	1200	600	6000	1200	300			
1. Cutting Boulevard	4	16	12			32	60	60
2. Gilman Street	4	16	12	4	4	40	60	60
3. Camelia Street	4	16	12	4	4	40	60	60
4. Cedar Street	4	16	12	4	4	40	60	60
5. Virginia Street	4	16	12	4	4	40	60	60
6. Hearst Avenue	4	16	12	4	4	40	60	60
7. Addison Street	4	16	12	4	4	40	60	60
8. Bancroft Way	4	16	12	4	4	40	60	60
9. 67th Street	4	16	12	4	4	40	45	45
10. 66th Street	4	16	12	4	4	40	45	45
11. 65th Street	4	16	12	4	4	40	45	45
12. Market Street	10	26	4	4		44	15	15
13. M. L. King Blvd.	10	26	4	4		44	15	15
14. Clay Street	10	26	4	4		44	15	15
15. Washington Street	10	26	4	4		44	15	15
16. Broadway	10	26	4	4		44	15	15
17. Franklin Street	10	26	4	4		44	15	15
18. Webster Street	10	26	4	4		44	15	15
19. Oak Street	10	26	4	4		44	15	15
20. 5th Avenue	2	6	4	4		16	40	20
21. 29th Avenue	2	6	4	4		16	60	40
22. Fruitvale Avenue	2	6	4	4		16	60	40
23. 37th Avenue	2	6	4	4		16	60	40

* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

Table J.1-11

FISCO/Port Vision 2000 EIS/EIR
Gate Down Time At Roadway Crossings
Existing Weekdays (After UP/SP Merger)

Crossing Street	Gate Down Time Per Train (minutes)					Total Gate Down Time (min./day)
	Passenger *				Switchers *	
	1200	600	6000	1200	300	
1. Cutting Boulevard	0.7	0.6	1.6	0.0	0.0	32
2. Gilman Street	0.7	0.6	1.6	0.7	0.6	37
3. Camelia Street	0.7	0.6	1.6	0.7	0.6	37
4. Cedar Street	0.7	0.6	1.6	0.7	0.6	37
5. Virginia Street	0.7	0.6	1.6	0.7	0.6	37
6. Hearst Avenue	0.7	0.6	1.6	0.7	0.6	37
7. Addison Street	0.7	0.6	1.6	0.7	0.6	37
8. Bancroft Way	0.7	0.6	1.6	0.7	0.6	37
9. 67th Street	0.8	0.7	2.0	0.8	0.6	44
10. 66th Street	0.8	0.7	2.0	0.8	0.6	44
11. 65th Street	0.8	0.7	2.0	0.8	0.6	44
12. Market Street	1.4	1.0	5.0	1.4	0.0	66
13. M. L. King Blvd.	1.4	1.0	5.0	1.4	0.0	66
14. Clay Street	1.4	1.0	5.0	1.4	0.0	66
15. Washington Street**	1.4	1.0	5.0	1.4	0.0	66
16. Broadway**	1.4	1.0	5.0	1.4	0.0	66
17. Franklin Street**	1.4	1.0	5.0	1.4	0.0	66
18. Webster Street	1.4	1.0	5.0	1.4	0.0	66
19. Oak Street	1.4	1.0	5.0	1.4	0.0	66
20. 5th Avenue	0.8	0.7	3.9	1.2	0.0	26
21. 29th Avenue	0.7	0.6	2.2	0.8	0.0	17
22. Fruitvale Avenue	0.7	0.6	2.2	0.8	0.0	17
23. 37th Avenue	0.7	0.6	2.2	0.8	0.0	17

* Values shown below train type represent the length of each train in feet.

** Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Gate Down Time Per Train = (a + b / 1.47 / c) / 60)
where, a = 30 seconds track clearance time
b = train length (ft.)
c = train speed (mph)

Table J.1-12

FISCO/Port Vision 2000 EIS/EIR
Traffic Volumes at Railroad Crossings
Existing Weekdays (After UP/SP Merger)

Crossing Street	Jurisdiction	Average Daily Traffic for Year Traffic Was Counted	Year Traffic Was Counted	Average Daily Traffic (1996)
1. Cutting Boulevard	Richmond	26,892	1994	27,430
2. Gilman Street	Berkeley	17,413	1986	19,150
3. Camelia Street	Berkeley		1996 (Estimated Max.)	2,000
4. Cedar Street	Berkeley	3,413	1986	3,750
5. Virginia Street	Berkeley	1,584	1986	1,740
6. Hearst Avenue	Berkeley	5,758	1986	6,330
7. Addison Street	Berkeley		1996 (Estimated Max.)	2,000
8. Bancroft Way	Berkeley		1996 (Estimated Max.)	2,000
9. 67th Street	Emeryville		1996 (Estimated Max.)	2,000
10. 66th Street	Emeryville		1996 (Estimated Max.)	2,000
11. 65th Street	Emeryville		1995	2,700
12. Market Street	Oakland	3,655	1996	3,660
13. M. L. King Blvd.	Oakland	309	1976	340
14. Clay Street	Oakland	1,531	1977	1,680
15. Washington Street	Oakland	613	1976	670
16. Broadway	Oakland	11,833	1978	12,900
17. Franklin Street	Oakland	1,626	1976	1,790
18. Webster Street	Oakland	3,111	1974	3,450
19. Oak Street	Oakland	3,340	1976	3,670
20. 5th Avenue	Oakland	6,224	1976	6,850
21. 29th Avenue	Oakland	9,034	1990	9,310
22. Fruitvale Avenue	Oakland	22,304	1993	22,640
23. 37th Avenue	Oakland	1,070	1994	1,080

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Note: Escalation factors were applied to escalate counts to 1996 estimated values as follows:
Cities of Richmond & Berkeley - 1% per year; City of Oakland 1/2% per year.

Table J.1-13

FISCO/Port Vision 2000 EIS/EIR
Vehicle Delay at Railroad Crossings
Existing Weekdays (After UP/SP Merger)

Crossing Street	Jurisdiction	Average Daily Traffic (1996)	Total Gate Down Time (min./day)	Vehicular Delay (hours/day)
1. Cutting Boulevard	Richmond	27,430	32	9.9
2. Gilman Street	Berkeley	19,150	37	7.5
3. Camelia Street	Berkeley	2,000	37	0.8
4. Cedar Street	Berkeley	3,750	37	1.5
5. Virginia Street	Berkeley	1,740	37	0.7
6. Hearst Avenue	Berkeley	6,330	37	2.5
7. Addison Street	Berkeley	2,000	37	0.8
8. Bancroft Way	Berkeley	2,000	37	0.8
9. 67th Street	Emeryville	2,000	44	1.1
10. 66th Street	Emeryville	2,000	44	1.1
11. 65th Street	Emeryville	2,700	44	1.5
12. Market Street	Oakland	3,660	66	4.1
13. M. L. King Blvd.	Oakland	340	66	0.4
14. Clay Street	Oakland	1,680	66	1.9
15. Washington Street*	Oakland	670	66	0.8
16. Broadway*	Oakland	12,900	66	14.6
17. Franklin Street*	Oakland	1,790	66	2.0
18. Webster Street	Oakland	3,450	66	3.9
19. Oak Street	Oakland	3,670	66	4.2
20. 5th Avenue	Oakland	6,850	26	3.4
21. 29th Avenue	Oakland	9,310	17	1.9
22. Fruitvale Avenue	Oakland	22,640	17	4.7
23. 37th Avenue	Oakland	1,080	17	0.2
Total Delay				70.3

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996

Appendix J.2
Marine Terminal Traffic Analysis

Marine Terminal Traffic Analysis

Fleet Industrial Supply Center, Oakland (FISCO) Disposal and Reuse EIS/EIR

Project W96021

October 28, 1996

Contents

This report was prepared by Jordan Woodman Dobson for the Port of Oakland. JWD is working for Tetra Tech in the development of an EIS / EIR for the Port.

Quality Assurance

Author: *Mark Sisson* MAS
Editor: *Meri Furnari* MF
Principal: *Thomas Ward, SE* TAW

1. Overview

1.1 Introduction

This report provides data in support of the Traffic Impact section of the Environmental Impact Statement and Report (EIS/EIR) for the redevelopment of the Naval Fleet Industrial Supply Center, Oakland (FISCO).

The proposed FISCO site redevelopment includes plans for new marine terminals along the Port of Oakland's Inner Harbor Channel, as well as the development of a new Joint Intermodal Rail Terminal (JIT). The new marine terminals are expected to generate traffic to and from the new JIT and to and from regional roads and highways.

Jordan Woodman Dobson (JWD) was contracted to estimate volumes of automobile and truck traffic that can be generated by existing and new marine terminal developments in 1996 and 2010. JWD estimated peak-day traffic generated by marine terminals in four zones: Outer Harbor, 7th Street, Middle Harbor, and a New Terminal Area.

The "peak day" was assumed to be an average day during a peak traffic week. Three time periods during a peak gate day were of particular interest: the morning peak, 7 AM to 9 AM; the evening peak, 4 PM to 6 PM; and the lunch peak, 11 AM to 12 noon.

1.2 Process

Truck Traffic

Truck traffic for 1996 is estimated from 1995 data by assuming a uniform increase in container throughput per terminal and ratio of truck trips to ship lifts.

Truck traffic for 2010 was estimated by assuming that container shipping will grow at the rate predicted by the *San Francisco Bay Area Seaport Plan* prepared by Multitrans Corporation in 1994. The number of ship moves to rail was assumed to be variable with at least 5% of ship traffic moving by rail. The number of ship moves by road to local markets was assumed to be fixed. Total volumes were adjusted to not exceed the capacity of each option as determined by JWD.

The marine terminal areas within the Port were grouped into four zones, summarized in Table 1.1.

Zone	Code	Zone	Terminals
New Terminal Area	NT	1	To Be Built
Middle Harbor	MH	6	APL, Howard
7th Street	7th St	7	TraPac, Matson, MTC
Outer Harbor	OH	8	Sea-Land, Yusen, Maersk, TransBay

Table 1.1
Port of Oakland Terminals and Zones

Four alternative FISCO redevelopment plans are under consideration for New Terminal Area, Zone 1. These include four alternatives labeled Options A through D, as well as a No-Build option. The acreages for these options were based on proposed development plans presented in the EIS/EIR document.

The acreages of the existing marine terminals in Zones 6 through 8 were taken from the 1996 edition of *Lloyds Ports of the World*. According to Tetra Tech, Inc., the size of the existing terminals would not increase between now and 2010, except in Development Alternative B where Zone 8 was assumed to expand by 22 acres.

The daily truck trips were distributed over the course of a day according to an observed truck arrival pattern, and a derived truck departure pattern based on the arrival pattern and a truck turnaround time. JWD used data collected in 1996 at Marine Terminals Corporation's (MTC) 7th Street terminal to estimate the hourly truck traffic arrival and departure patterns for terminals.

CAR TRAFFIC

Car traffic at the Port was estimated based on terminal acreage, information regarding terminal employment, and assumptions about trips generated per employee. Car traffic was distributed over the course of the day according to traffic counts on roads within the Port of Oakland. These counts were provided by Dowling Associates.

2. Analysis Data and Assumptions

2.1 THROUGHPUT

1995 THROUGHPUT

Table 2.1 shows statistics about the container terminals at the Port of Oakland for 1995. There were approximately 1.75 twenty-foot equivalent units (TEUs) per container, indicating that approximately 75% of containers were 40 feet long and 25% of containers were 20 feet long.

Zone	Terminal	Gross Area (acres)	1995 Thruput (ship lifts)	Thruput per Gross Acre (conts)	Thruput per Gross Acre (TEUs)
Zone 6	APL	82.8	162,407	1,961	3,433
(Middle Harbor)	Howard	48.9	94,359	1,930	3,375
Subtotal		**131.7**	**256,766**	**1,950**	**3,413**
Zone 7	TraPac	34.6	39,377	1,138	1,992
(7th Street)	Matson	65.5	93,158	1,422	2,490
	MTC	56.6	136,301	2,408	4,215
Subtotal		**156.7**	**268,836**	**1,716**	**3,003**
Zone 8	Sea Land	65.5	111,146	1,697	2,970
(Outer Harbor)	Yusen	40.0	83,502	2,088	3,650
	Maersk	45.7	71,031	1,554	2,970
	TransBay	29.2	57,255	1,961	3,436
Subtotal		**180.3**	**322,934**	**1,791**	**3,134**
Total		**468.7**	**848,536**	**1,810**	**3,168**

Table 2.1
1995 Terminal Statistics

The Port as a whole handled about 1,500,000 stevedoring TEUs with 470 gross acres of marine terminal, or 3,200 TEUs per acre per year.

1996 THROUGHPUT

The 1996 throughput volume was calculated by increasing the 1995 throughput at each terminal by an assumed growth rate of 7%.

2010 THROUGHPUT

Throughput volume for 2010 was estimated based on the container shipping growth projections from the Seaport Plan. The future container volumes were expressed in terms of metric tons of cargo per year instead of the more common TEUs.

Table 2.2 converts the projections from the Seaport Plan into containers based on the ratio of containers to forecast tonnage in 1995.

Year	1995	2000	2005	2010
Metric Tons	11,191,000	14,334,000	18,282,000	22,227,000
Containers	848,536	1,086,848	1,386,197	1,685,319
Annual Growth		5.1%	5.0%	4.0%

Table 2.2
Container Volume Forecast - Seaport Plan

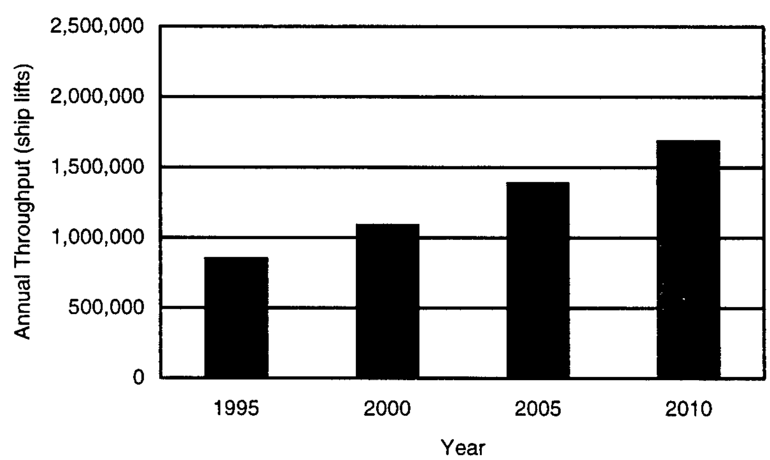

Figure 2.1
Projected Container Traffic - Seaport Plan

2.2 OVER-THE-ROAD VS. RAIL TRAFFIC

When containers arrive in the Port they either travel to their ultimate destination by truck or are drayed by truck to nearby intermodal rail yards for inland transport. For purposes of this traffic study, these two types of moves are referred to as "Over the Road" (OTR) and "Rail" moves.

OTR containers have destinations in the area served by the Port of Oakland. JWD assumed that these containers will continue to arrive in the San Francisco Bay ports regardless of future development at the Port of Oakland.

Rail moves are bound for final destinations as far away as the East Coast. The volume of this traffic moving through the Port of Oakland will depend on the attractiveness of Oakland as a rail gateway compared with other West Coast ports.

The *Port of Oakland Joint Intermodal Terminal Operational Analysis Report* (January, 1995) indicates that 148,500 containers used rail facilities in the Port of Oakland in 1994, corresponding to roughly 20% of total Port throughput. OTR moves comprised the remaining 80% of ship lifts in 1994.

The Seaport Plan makes no mention of the relationship between OTR and Rail traffic. JWD assumed that OTR traffic would constitute 80% of the Seaport Plan projected container traffic.

If the Port improves its attractiveness to Rail traffic by building the JIT, Rail traffic through Oakland would likely increase. Similarly, Rail traffic would decrease if terminals become congested by OTR moves.

The upper bound on Rail traffic through the Port of Oakland was calculated as the minimum of:

1. *The capacity of nearby railyards.* The estimated capacity of the Joint Intermodal Terminal in 2010 has been set at 1.2 million lifts per year.

2. *The capacity of the marine terminals.* JWD estimated the capacity of terminals at the Port of Oakland in 2010 as 4,700 TEUs, or 2,685 ship lifts, per acre per year. This is 500 TEUs per acre more than the busiest terminal handled in 1996.

3. *The potential market for intermodal cargo.* This factor is perhaps the most difficult to estimate but JWD projects the fraction of Port traffic that moves by rail will not be higher than 40% of the total traffic in 2010. This is twice the Rail traffic ratio that the Port experienced in 1994.

The lower bound on rail demand was set at 5% of the total marine terminal traffic, reflecting a portion of maritime traffic that would move by rail through the Port of Oakland regardless of congestion caused by OTR demand.

PORT CAPACITY

Table 2.3 illustrates the total capacity of each of the proposed development Options, based on 4,700 TEUs per acre per year. The terminal acreage within the Outer Harbor, 7th Street, and Middle Harbor Zones remains the same between 1996 and 2010 for Options A, C, and D, and the No-Build Option. Terminals are developed within the New Terminal Area Zone in Options A, B, C, and D. In Option B, an additional 22 acres of terminal are developed in the Outer Harbor Zone.

Zone	No-Build	Option A	Option B	Option C	Option D
1 - New Terminal Area	0	260	100	290	278
6 - Middle Harbor	132	132	132	132	132
7 - 7th Street	157	157	157	157	157
8 - Outer Harbor	180	180	202	180	180
Total Acreage	469	729	591	759	747
Total Capacity (moves)	1,260,000	1,960,000	1,590,000	2,040,000	2,010,000

Table 2.3
Terminal Acreages and Capacities

Figure 2.2 depicts the terminal acreages graphically. Figure 2.3 depicts the terminal capacities graphically.

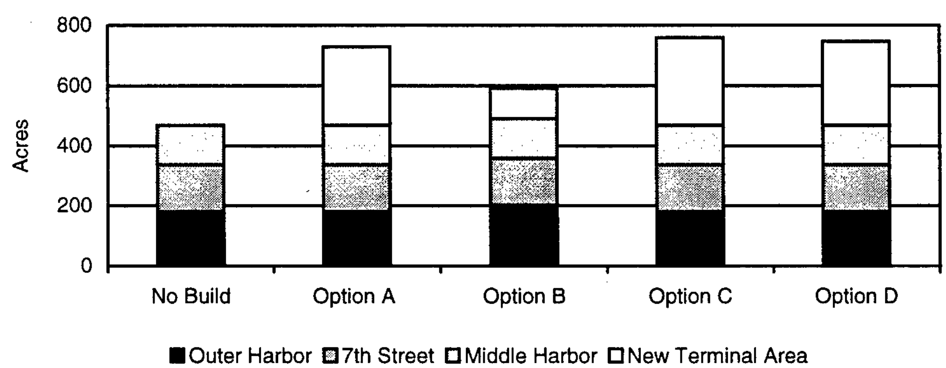

Figure 2.2
Terminal Acreages

Figure 2.3
Terminal Capacities

Figure 2.4 shows the relationship between capacities for the various options, the lower-bound potential demand, and upper-bound demands #1 and #3.

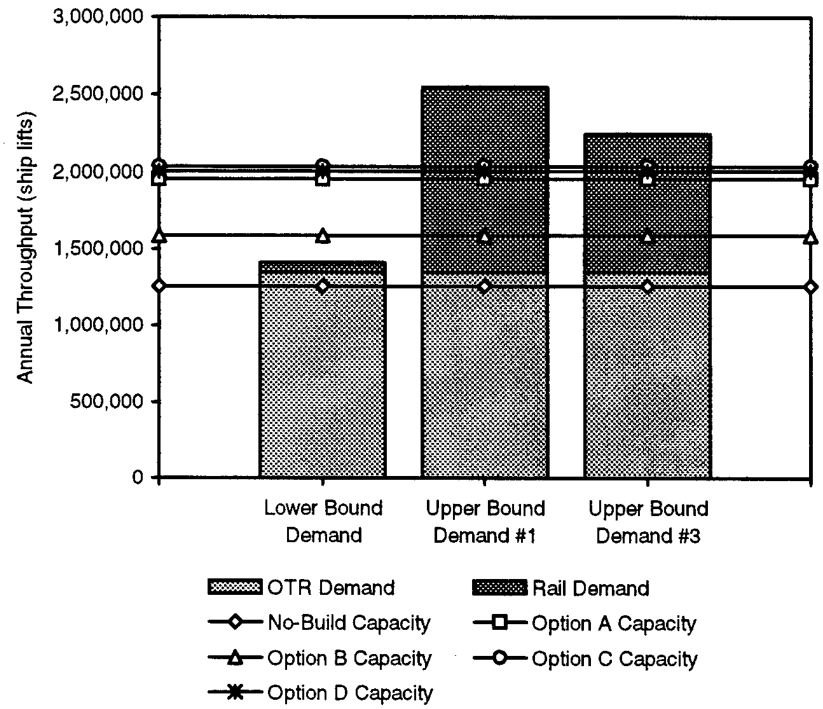

Figure 2.4
Port Capacity vs. Potential 2010 Demand

Figure 2.4 shows:

The OTR demand in 2010 exceeds the marine terminal capacities of the No-Build Option.

The upper-bound demands fixed by the JIT capacity (#1) and the rail market potential (#3) will exceed the capacities of all options.

These relationships imply that Rail demand in 2010, and therefore Port demand, will be limited by the overall capacities of the marine terminals, as summarized in Table 2.3, rather than by the other factors.

Table 2.4 summarizes the 2010 total demand, and its breakdown into OTR and Rail traffic, for each option. For the No-Build Option, it was assumed that all but 5% of Rail traffic would be handled by other Ports. In addition, it should be noted that about 152,000 OTR lifts in the No-Build Option would be handled at other Bay Area Ports such as Richmond or San Francisco.

Zone	No-Build	Option A	Option B	Option C	Option D
OTR Traffic - Oakland	1,196,000	1,348,000	1,348,000	1,348,000	1,348,000
Rail Traffic - Oakland	64,000	612,000	242,000	692,000	662,000
Total Traffic - Oakland	1,260,000	1,960,000	1,590,000	2,040,000	2,010,000
Rail / Total Traffic - Oakland	5.0%	31.2%	15.2%	33.9%	32.9%
OTR Traffic -Other Bay Ports	152,000	0	0	0	0

Table 2.4
Projected Port Traffic 2010

2.3 TRUCK TRAFFIC

Peak truck traffic was calculated for 1996 and 2010 based on several assumptions regarding terminal operations drawn from historical data and JWD's experience and professional judgment.

Gate Operating Schedule: Terminals gates were assumed to operate 52 weeks per year and five days per week.

Peak Week Factor: The peak week has 1.25 times as many ship lifts as the average week.

Gate Transactions to Ship Lift Ratio: Each ship lift generates 1.33 container transactions through the gate. The ratio is not 1.0 because the marine terminals act as storage depots for empty containers that may move in and out of the terminal without generating a ship lift, as shown in Figure 2.5.

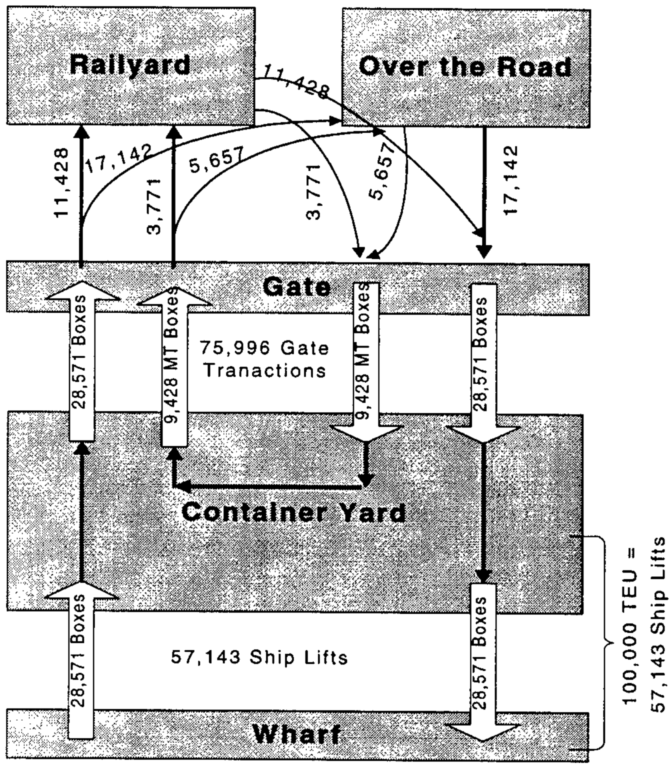

Figure 2.5
Container Flow at the Port of Oakland, 2010

Truck Trips to Gate Transactions Ratio: Each gate transaction in 1996 generates an average of 1.7 truck trips. Truck trips include trucks that enter or leave the terminal with or without a container. The ratio is not 2.0 because some trucks both deliver and retrieve containers from the terminal in a single visit as described in Table 2.5 and Figure 2.5. The fraction of OTR vs. Rail trips (and therefore the overall weighted average of truck trips per gate transaction) will vary with each development alternative.

	1996		2010	
	OTR	Rail	OTR	Rail
Fraction of Ship Lifts	80%	20%	Variable	Variable
Fraction of Hauls 1-way	65%	90%	65%	90%
Fraction of Hauls 2-way	35%	10%	35%	10%
Truck Trips per Gate Transaction	1.65	1.90	1.65	1.90

Table 2.5
Truck Trips per Gate Transaction

Figure 2.6 describes the 80%/20% split found in 1996 as an illustration of the relationship between truck trips and gate transactions.

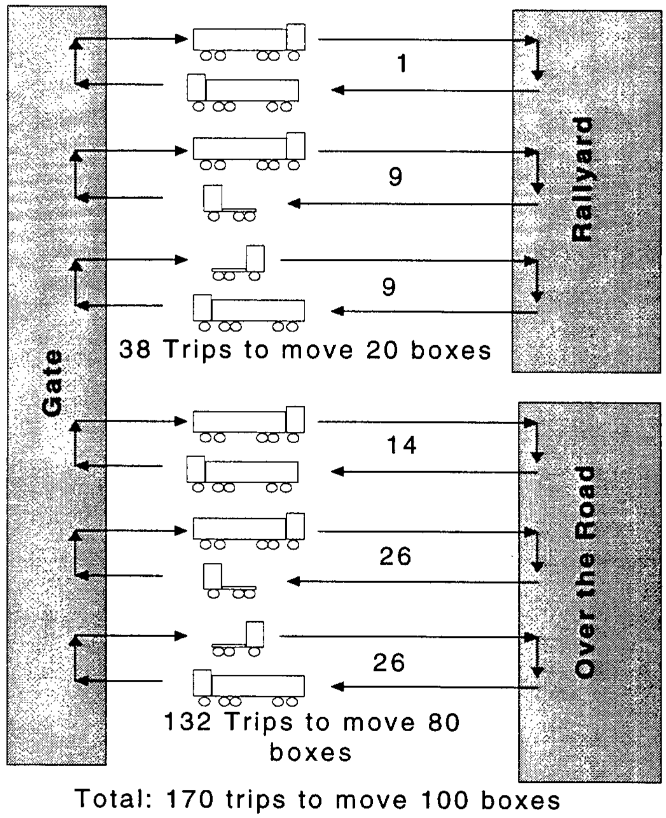

Figure 2.6
Gate Transactions vs. Truck Trips

Table 2.6 shows how these factors were used to estimate truck trips for the Port in 2010 under each development option.

Item	Factor	No Build	A	B	C	D
Annual Thruput		1,258,925	1,957,211	1,586,582	2,037,782	2,005,554
Weekly Thruput	1/52	24,210	37,639	30,511	39,188	38,568
Pk Week Thruput	1.25	30,263	47,048	38,139	48,985	48,210
Avg Day Thruput	1/5	6,053	9,410	7,628	9,797	9,642
Daily Gate Moves	1.33	8,050	12,515	10,145	13,030	12,824
OTR Fraction		95.0%	68.9%	85.0%	66.2%	67.2%
Rail Fraction		5.0%	31.1%	15.0%	33.8%	32.8%
Gate moves OTR		7,647	8,621	8,621	8,621	8,621
Gate moves to Rail		402	3,894	1,524	4,409	4,203
Trips OTR	1.65	12,618	14,225	14,225	14,225	14,225
Trips to Rail	1.90	765	7,398	2,895	8,377	7,986
Total Truck Trips		13,383	21,623	17,120	22,602	22,210

Table 2.6
Calculation of 2010 Daily Truck Trips from Annual Throughput

Peak truck trips were calculated for each zone based on the acreages of each zone. Table 2.7 shows the fraction of total Port area at each Zone and Table 2.8 shows the number of truck trips generated by each zone. Figure 2.7 shows the calculated daily truck trips by zone.

Zone	2010 No Bld	2010 Opt A	2010 Opt B	2010 Opt C	2010 Opt D
1 - New Terminal Area	0.0%	35.7%	16.9%	38.2%	37.2%
6 - Middle Harbor	28.1%	18.1%	22.3%	17.4%	17.6%
7 - 7th Street	33.4%	21.5%	26.5%	20.6%	21.0%
8 - Outer Harbor	38.5%	24.8%	34.3%	23.8%	24.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.7
Fraction of Port Area in Each Zone - 2010

Zone	2010 No Bld	2010 Opt A	2010 Opt B	2010 Opt C	2010 Opt D
1 - New Terminal Area	0	7,715	2,898	8,639	8,268
6 - Middle Harbor	3,760	3,908	3,817	3,923	3,917
7 - 7th Street	4,473	4,648	4,540	4,667	4,660
8 - Outer Harbor	5,150	5,352	5,865	5,373	5,365
Total Truck Trips	13,383	21,623	17,120	22,602	22,210

Table 2.8
2010 Daily Truck Trips During Peak Week

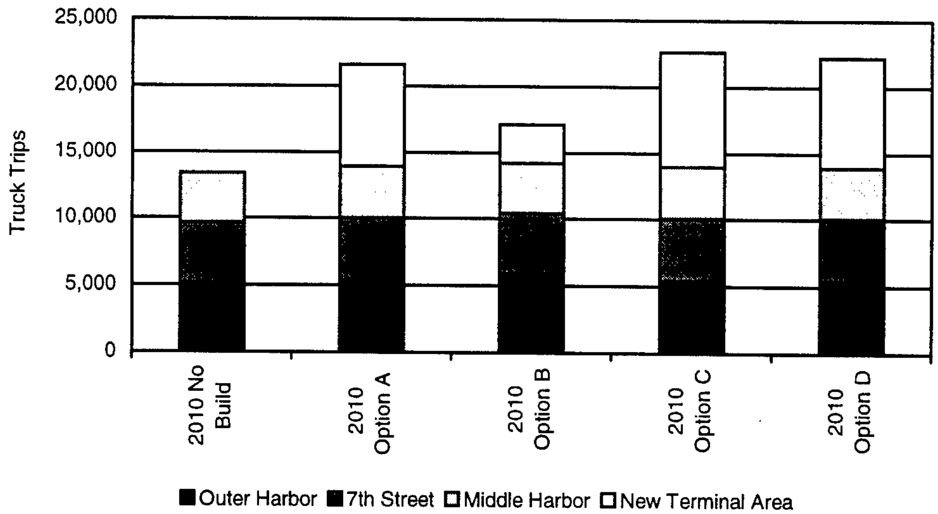

Figure 2.7
2010 Daily Truck Trips During Peak Week

2.4 TRUCK ARRIVAL AND DEPARTURE PATTERNS

Truck arrival and departure patterns were used to distribute daily truck trips over the course of the day. A truck arrival pattern observed at MTC's 7th Street terminal was used as the arrival pattern for all terminals. MTC's 7th Street terminal gate operates during the day only. This is the current practice at the Port of Oakland terminals and it was assumed to continue into 2010. The truck arrival pattern was applied to the total daily truck arrivals estimated for each terminal to distribute Port truck trips by hour.

A truck departure pattern was estimated from the truck arrival pattern, assuming that truck departures would take place 30 minutes after arrival.

Figures 2.8 and 2.9 respectively show the arrival and departure patterns of truck trips. Traffic is heavy after the terminal opens, is light during lunch, and trails off toward gate closing time.

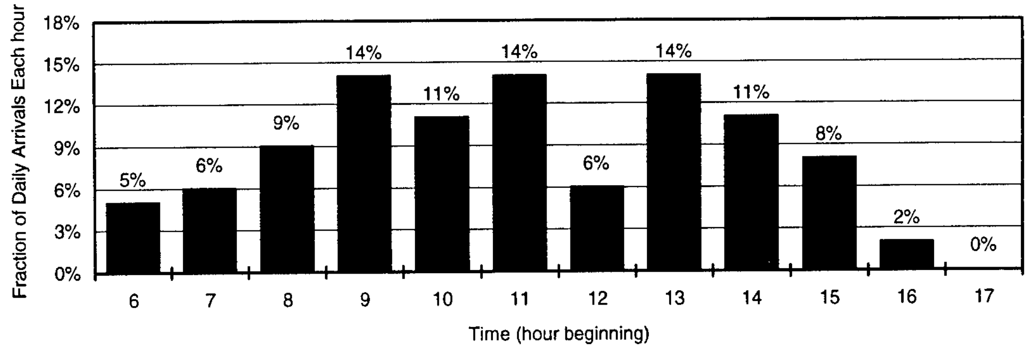

Figure 2.8
Truck Arrival Pattern

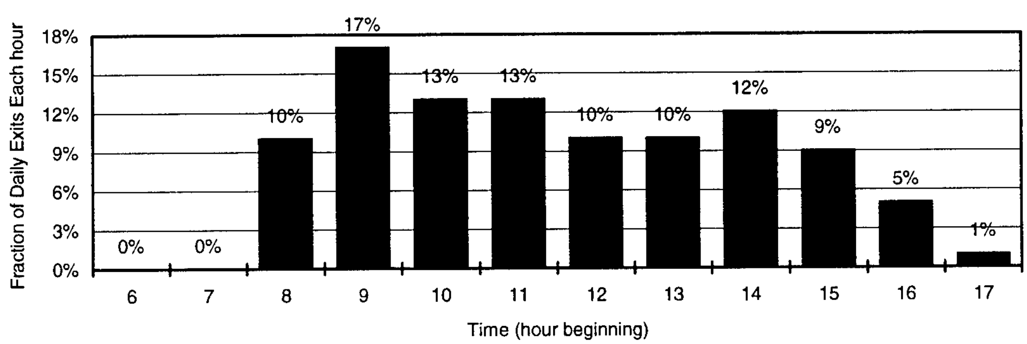

Figure 2.9
Truck Departure Pattern

2.5 PORT CAR TRIP GENERATION

The calculation of car trips to and from the terminals was based on terminal acreage, an estimate of the number of employees per acre, and the number of daily car trips per employee.

EMPLOYMENT AT TERMINALS

In 1996, in a "unit" terminal of 50 acres, JWD estimates that 120 employees work the day shift and 55 work the night shift when a ship is on berth. When there is no ship on berth, 60 employees work the day shift and 0 work the night shift.

The number of employees working the "unit" (50-acre terminal) is expected to increase at the same rate as the increase in terminal productivity (2.6% per year). This employment information is presented in Table 2.9.

	Ship on Berth		No Ship on Berth	
Year	Day	Night	Day	Night
1996	120	55	60	0
2010	172	79	86	0

Table 2.9
Marine Terminal Employment

During peak periods, JWD estimates that two-thirds of the terminals will have a ship on-berth.

DAILY CAR TRIPS

Table 2.10 shows the number of daily car trips generated based on the employment at a 50-acre unit terminal, and assumes an average of 3.5 employee trips per day. This estimate considers the fact that nearly all marine terminal employees drive alone to work. In addition, many employees leave the terminal during lunch. Terminal visitors also generate some auto trips.

Fraction of Time	Ship on Berth 2/3	No Ship on Berth 1/3	Average
Year			
1996	613	210	478
2010	877	301	685

Table 2.10
Peak Daily Car Trip Generation for a 50-Acre Terminal Unit

DISTRIBUTION OF CAR TRIPS

The distribution of car trips throughout the day, shown in Table 2.11, reflects employees' work schedules. These fractions were derived from traffic counts on Port of Oakland roads taken by Dowling Associates. The percentage indicates what fraction of the total daily auto trips occur as an entry or exit in the given hour.

	Entries to Terminal	Exits from Terminal
0600 - 0700	7.3%	0.4%
0700 - 0800	8.4%	0.4%
0800 - 0900	4.9%	0.3%
0900 - 1000	4.2%	0.5%
1000 - 1100	3.2%	2.1%
1100 - 1200	3.4%	3.4%
1100 - 1300	3.7%	3.7%
1300 - 1400	3.1%	3.1%
1400 - 1500	1.3%	5.1%
1500 - 1600	0.4%	7.6%
1600 - 1700	0.4%	7.4%
1700 - 1800	0.7%	5.9%
0600 - 1800	41.0%	39.9%

Table 2.11
Car Trip Distribution

Figure 2.10 illustrates the distribution of car trips.

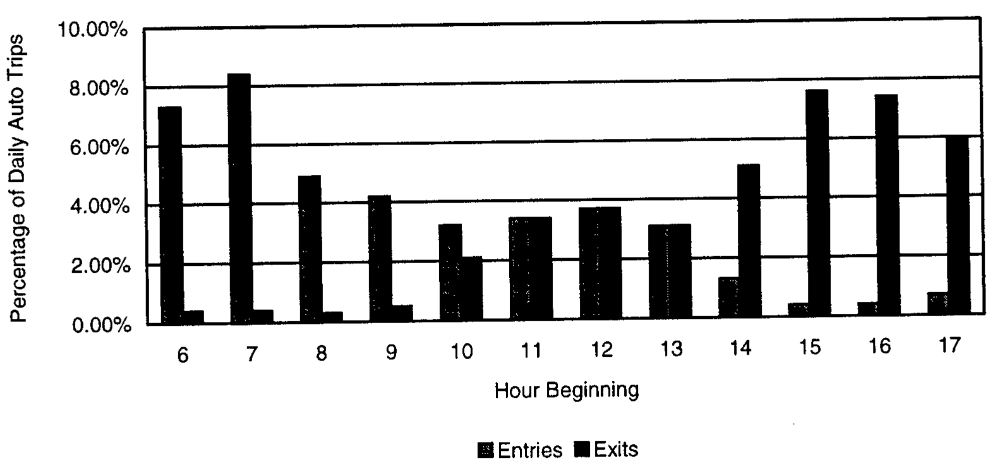

Figure 2.10
Distribution of Car Trips Throughout Day

3. Analysis Results

This section summarizes the results for both truck and auto trips in order to estimate total marine terminal traffic in 1996 and 2010.

3.1 1996 TRAFFIC

Table 3.1 shows peak truck trips for existing zones for key hours during the day broken down by entries and exits.

Zone:	6 - Middle Harbor		7 - 7th Street		8 - Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits
0600-0700	73	0	76	0	91	0
0700-0800	**90**	**0**	**94**	**0**	**113**	**0**
0800-0900	**140**	**149**	**147**	**156**	**176**	**188**
0900-1000	206	252	216	264	259	317
1000-1100	169	187	177	196	212	236
1100-1200	**213**	**191**	**223**	**200**	**268**	**240**
1200-1300	88	150	92	157	110	189
1300-1400	209	149	219	156	263	187
1400-1500	160	185	168	194	202	233
1500-1600	115	138	120	144	144	173
1600-1700	**30**	**73**	**32**	**76**	**38**	**91**
1700-1800	**0**	**15**	**0**	**16**	**0**	**19**

Table 3.1
1996 Peak - Daily Truck Trips During Peak Week by Zone

Table 3.2 describes the total peak truck traffic moving to and from the rail yards in 1996.

	Total Truck Trips	Truck Trips for Rail Yard
Middle Harbor (6)	2,987	668
7th Street (7)	3,127	699
Outer Harbor (8)	3,756	840
Total	9,870	2,207

Table 3.2
1996 Peak - Daily Truck Traffic During Peak Week to Rail Yard

Table 3.3 shows the distribution of peak car trips associated with Port employment in 1996.

Zone:	6 - Middle Harbor		7 - 7th Street		8 - Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits
0600-0700	93	5	110	6	127	7
0700-0800	**106**	**6**	**126**	**7**	**145**	**8**
0800-0900	**62**	**3**	**73**	**4**	**85**	**4**
0900-1000	52	6	62	7	72	8
1000-1100	40	27	48	32	55	37
1100-1200	**43**	**43**	**51**	**51**	**58**	**58**
1200-1300	47	47	56	56	64	64
1300-1400	39	39	46	46	53	53
1400-1500	16	65	19	77	22	89
1500-1600	5	96	6	114	7	131
1600-1700	**5**	**94**	**6**	**112**	**7**	**128**
1700-1800	**8**	**74**	**10**	**88**	**11**	**101**

Table 3.3
1996 Peak - Daily Car Trips During Peak Week by Zone

Table 3.4 and Figure 3.1 illustrate the distribution of peak truck and car trips for the Port as a whole throughout the day.

	Truck Entries	Truck Exits	Total Truck Trips	Car Entries	Car Exits	Total Car Trips
0600-0700	240	0	240	329	17	347
0700-0800	**296**	**0**	**296**	**376**	**20**	**396**
0800-0900	**463**	**493**	**957**	**220**	**12**	**231**
0900-1000	681	834	1,515	187	21	208
1000-1100	558	620	1,178	143	95	238
1100-1200	**703**	**631**	**1,334**	**152**	**152**	**304**
1200-1300	290	497	787	167	167	334
1300-1400	692	491	1,183	138	138	277
1400-1500	530	611	1,142	58	231	288
1500-1600	380	455	835	18	341	359
1600-1700	**100**	**240**	**341**	**18**	**334**	**351**
1700-1800	**0**	**50**	**50**	**29**	**262**	**292**

Table 3.4
1996 Peak - Daily Truck and Car Trips During Peak Week by Hour of Day for the Whole Port

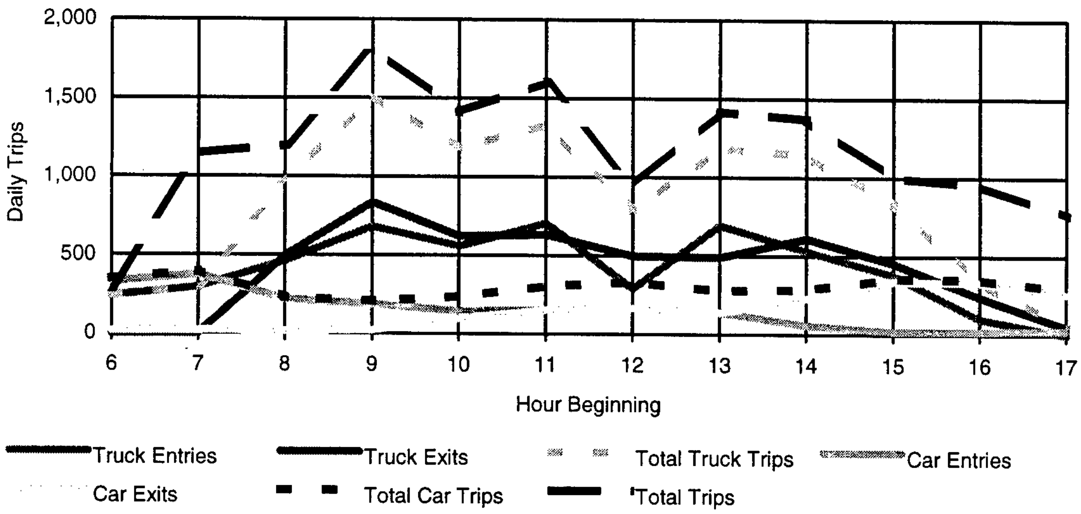

Figure 3.1
1996 Peak - Daily Port Car and Truck Trips During Peak Week

3.2 2010 TRAFFIC

Tables 3.5 through 3.9 describe peak daily truck and car traffic for each option in 2010.

Zone:	1 New Terminal		6 Middle Harbor		7 7th Street		8 Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits	Entries	Exits
TRUCKS								
7-8	**0**	**0**	**113**	**0**	**134**	**0**	**154**	**0**
8-9	**0**	**0**	**177**	**188**	**210**	**224**	**242**	**257**
9-10	0	0	259	318	309	378	355	435
10-11	0	0	213	236	253	281	291	323
11-12	**0**	**0**	**268**	**240**	**319**	**286**	**367**	**329**
12-13	0	0	111	189	132	225	151	259
13-14	0	0	264	187	314	223	361	256
14-15	0	0	202	233	240	277	277	319
15-16	0	0	145	173	172	206	198	237
16-17	**0**	**0**	**38**	**91**	**46**	**109**	**52**	**125**
17-18	**0**	**0**	**0**	**19**	**0**	**23**	**0**	**26**
CARS								
7-8	**0**	**0**	**151**	**8**	**180**	**9**	**207**	**11**
8-9	**0**	**0**	**88**	**5**	**105**	**6**	**121**	**6**
9-10	0	0	75	8	89	10	103	11
10-11	0	0	57	38	68	46	79	52
11-12	**0**	**0**	**61**	**61**	**73**	**73**	**84**	**84**
12-13	0	0	67	67	80	80	92	92
13-14	0	0	56	56	66	66	76	76
14-15	0	0	23	93	28	110	32	127
15-16	0	0	7	137	9	163	10	188
16-17	**0**	**0**	**7**	**134**	**8**	**160**	**10**	**184**
17-18	**0**	**0**	**12**	**106**	**14**	**126**	**16**	**145**

Table 3.5
Daily Trips During Peak Week - No-Build Option

Zone:	1 New Terminal		6 Middle Harbor		7 7th Street		8 Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits	Entries	Exits
TRUCKS								
7-8	**231**	**0**	**117**	**0**	**139**	**0**	**160**	**0**
8-9	**362**	**386**	**183**	**195**	**218**	**232**	**251**	**268**
9-10	532	652	270	330	321	393	369	452
10-11	436	484	221	245	263	292	303	336
11-12	**550**	**493**	**279**	**250**	**331**	**297**	**381**	**342**
12-13	227	388	115	197	137	234	157	269
13-14	541	384	274	195	326	231	375	266
14-15	415	478	210	242	250	288	288	331
15-16	297	356	150	180	179	214	206	247
16-17	**79**	**188**	**40**	**95**	**47**	**113**	**54**	**130**
17-18	**0**	**39**	**0**	**20**	**0**	**24**	**0**	**27**
CARS								
7-8	**299**	**16**	**151**	**8**	**180**	**9**	**207**	**11**
8-9	**175**	**9**	**88**	**5**	**105**	**6**	**121**	**6**
9-10	148	16	75	8	89	10	103	11
10-11	113	76	57	38	68	46	79	52
11-12	**121**	**121**	**61**	**61**	**73**	**73**	**84**	**84**
12-13	133	133	67	67	80	80	92	92
13-14	110	110	56	56	66	66	76	76
14-15	46	183	23	93	28	110	32	127
15-16	14	271	7	137	9	163	10	188
16-17	**14**	**265**	**7**	**134**	**8**	**160**	**10**	**184**
17-18	**23**	**208**	**12**	**106**	**14**	**126**	**16**	**145**

Table 3.6
Daily Trips During Peak Week - Option A

Zone:	1 New Terminal		6 Middle Harbor		7 7th Street		8 Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits	Entries	Exits
TRUCKS								
7-8	**87**	**0**	**114**	**0**	**136**	**0**	**176**	**0**
8-9	**136**	**145**	**179**	**191**	**213**	**227**	**275**	**293**
9-10	200	245	263	323	313	384	405	496
10-11	164	182	216	240	257	285	332	368
11-12	**207**	**185**	**272**	**244**	**324**	**290**	**418**	**375**
12-13	85	146	112	192	134	229	173	295
13-14	203	144	268	190	318	226	411	292
14-15	156	179	205	236	244	281	315	363
15-16	111	134	147	176	175	209	226	270
16-17	**30**	**70**	**39**	**93**	**46**	**110**	**60**	**143**
17-18	**0**	**15**	**0**	**19**	**0**	**23**	**0**	**30**
CARS								
7-8	**115**	**6**	**152**	**8**	**180**	**9**	**232**	**12**
8-9	**67**	**4**	**89**	**5**	**105**	**6**	**136**	**7**
9-10	57	6	75	8	89	10	116	13
10-11	44	29	58	38	68	46	88	59
11-12	**46**	**46**	**61**	**61**	**73**	**73**	**94**	**94**
12-13	51	51	67	67	80	80	103	103
13-14	42	42	56	56	66	66	86	86
14-15	18	70	23	93	28	110	36	143
15-16	5	104	7	138	9	163	11	211
16-17	**5**	**102**	**7**	**135**	**8**	**160**	**11**	**206**
17-18	**9**	**80**	**12**	**106**	**14**	**126**	**18**	**162**

Table 3.7
Daily Trips During Peak Week - Option B

Zone:	1 New Terminal		6 Middle Harbor		7 7th Street		8 Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits	Entries	Exits
TRUCKS								
7-8	**259**	**0**	118	**0**	**140**	**0**	**161**	**0**
8-9	**406**	**432**	**184**	**196**	**219**	**233**	**252**	**269**
9-10	596	730	271	332	322	394	371	454
10-11	489	542	222	246	264	293	304	337
11-12	**616**	**552**	**280**	**251**	**333**	**298**	**383**	**343**
12-13	254	435	115	197	137	235	158	270
13-14	606	430	275	195	327	232	377	267
14-15	464	535	211	243	251	289	289	333
15-16	332	398	151	181	179	215	207	248
16-17	**88**	**210**	**40**	**95**	**48**	**113**	**55**	**131**
17-18	**0**	**44**	**0**	**20**	**0**	**24**	**0**	**27**
CARS								
7-8	**333**	**18**	**151**	**8**	**180**	**9**	**207**	**11**
8-9	**195**	**10**	**88**	**5**	**105**	**6**	**121**	**6**
9-10	166	18	75	8	89	10	103	11
10-11	127	84	57	38	68	46	79	52
11-12	**134**	**134**	**61**	**61**	**73**	**73**	**84**	**84**
12-13	148	148	67	67	80	80	92	92
13-14	123	123	56	56	66	66	76	76
14-15	51	204	23	93	28	110	32	127
15-16	16	303	7	137	9	163	10	188
16-17	**16**	**296**	**7**	**134**	**8**	**160**	**10**	**184**
17-18	**26**	**232**	**12**	**106**	**14**	**126**	**16**	**145**

Table 3.8
Daily Trips During Peak Week - Option C

Zone:	1 New Terminal		6 Middle Harbor		7 7th Street		8 Outer Harbor	
	Entries	Exits	Entries	Exits	Entries	Exits	Entries	Exits
TRUCKS								
7-8	**248**	**0**	**117**	**0**	**140**	**0**	**161**	**0**
8-9	**388**	**413**	**184**	**196**	**219**	**233**	**252**	**268**
9-10	571	699	270	331	322	394	370	453
10-11	468	519	222	246	264	293	303	337
11-12	**589**	**528**	**279**	**250**	**332**	**298**	**382**	**343**
12-13	243	416	115	197	137	235	158	270
13-14	580	412	275	195	327	232	376	267
14-15	444	512	210	243	250	289	288	332
15-16	318	381	151	181	179	215	206	247
16-17	**84**	**201**	**40**	**95**	**47**	**113**	**55**	**130**
17-18	**0**	**42**	**0**	**20**	**0**	**24**	**0**	**27**
CARS								
7-8	**319**	**17**	**151**	**8**	**180**	**9**	**207**	**11**
8-9	**187**	**10**	**88**	**5**	**105**	**6**	**121**	**6**
9-10	159	18	75	8	89	10	103	11
10-11	121	81	57	38	68	46	79	52
11-12	**129**	**129**	**61**	**61**	**73**	**73**	**84**	**84**
12-13	142	142	67	67	80	80	92	92
13-14	118	118	56	56	66	66	76	76
14-15	49	196	23	93	28	110	32	127
15-16	15	290	7	137	9	163	10	188
16-17	**15**	**284**	**7**	**134**	**8**	**160**	**10**	**184**
17-18	**25**	**223**	**12**	**106**	**14**	**126**	**16**	**145**

Table 3.9
Daily Trips During Peak Week - Option D

Figure 3.2 illustrates the total truck trips and automobile trips for the different options.

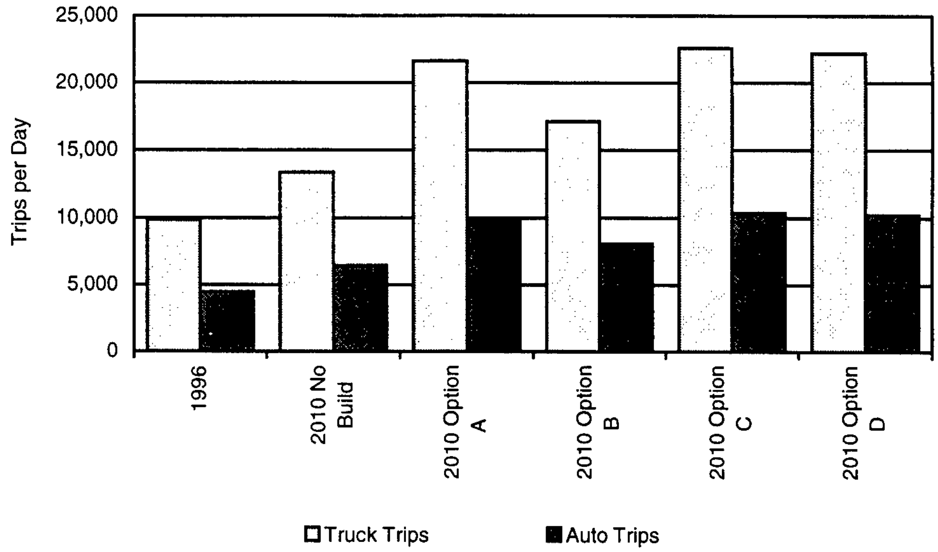

Figure 3.2
Daily Truck and Car Trips During Peak Week

Table 3.10 describes the total daily truck traffic during a peak week that moves from the zones to nearby rail yards in 2010.

Zone	1 NT	6 MH	7 7th St	8 OH	Total
NO-BUILD OPTION					
Total Truck Trips	0	3,760	4,473	5,150	13,383
Truck Trips to Rail Yard	0	215	256	294	765
OPTION A					
Total Truck Trips	7,715	3,908	4,648	5,352	21,623
Truck Trips to Rail Yard	2,640	1,337	1,590	1,831	7,398
OPTION B					
Total Truck Trips	2,898	3,817	4,540	5,865	17,120
Truck Trips to Rail Yard	490	646	768	992	2,895
OPTION C					
Total Truck Trips	8,639	3,923	4,667	5,373	22,602
Truck Trips to Rail Yard	3,202	1,454	1,730	1,992	8,377
OPTION D					
Total Truck Trips	8,268	3,917	4,660	5,365	22,210
Truck Trips to Rail Yard	2,973	1,408	1,675	1,929	7,986

Table 3.10
2010 Daily Truck Traffic During Peak Week

Figure 3.3 illustrates the total daily truck trips and trips to the Rail Yards for each option.

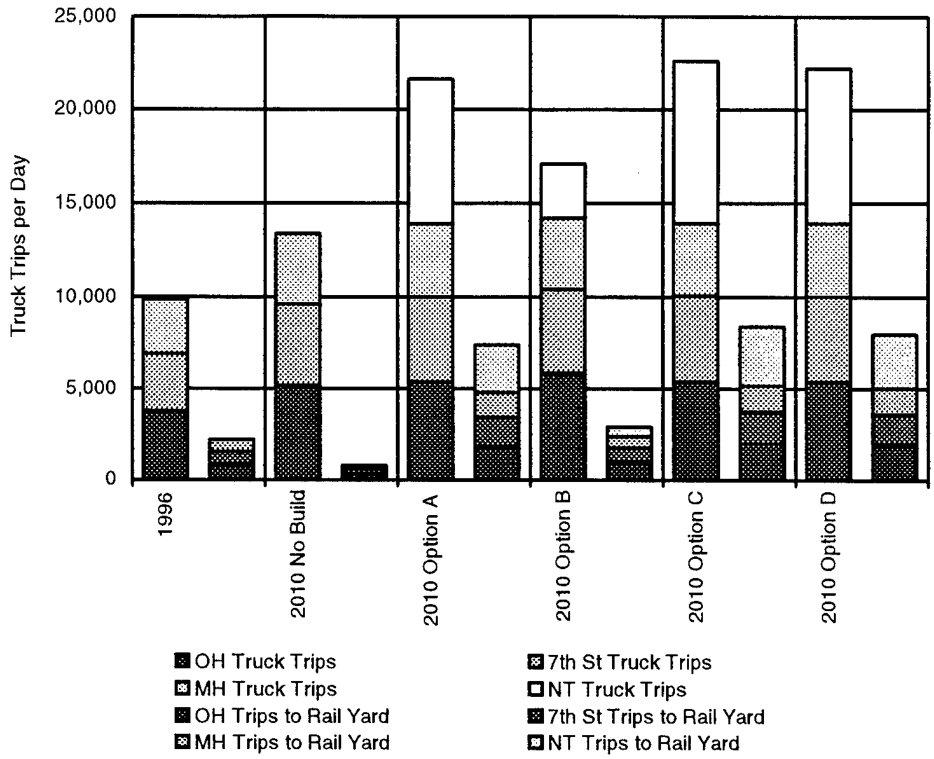

Figure 3.3
Daily Truck Trips During Peak Week

APPENDIX A: PROJECTED SHIP CALLS AT THE PORT OF OAKLAND IN 2010

JWD has estimated future ship call statistics based on data from 1988 through 1995 provided by the Port of Oakland. Statistics on lifts per call are shown in Figure A.1.

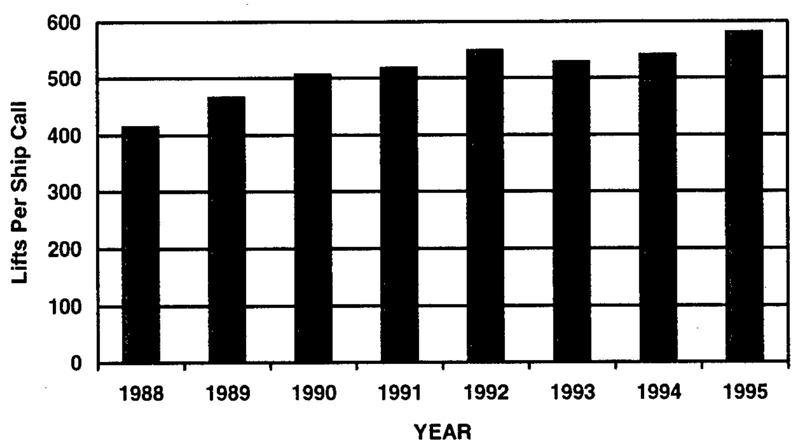

Figure A.1
Lifts per Ship Call at the Port of Oakland

The growth in lifts per ship call from 1988 to 1995 represents an annual growth rate of 4.9 %. Assuming this trend continues until 2010, the average ship call in 2010 will consist of 1196 ship lifts.

Presently, most of the container ships that call at the Port of Oakland are in the 2500 to 4000 TEUs capacity range. In general, ship sizes will increase in the future. Ships that call at Oakland may or may not increase accordingly with the world fleet as depth limitations may prohibit large ships from calling at Oakland. The largest ships in the world have a capacity of approximately 6000 TEUs and a depth requirement of about 45 feet. The channel into the Port of Oakland is presently about 40 to 42 feet deep. The Port plans to dredge the channel in order to accept larger ships. This should allow the number of ship lifts per call to continue to grow as predicted.

The ship call size of 1196 lifts was used to compute the expected number of ship calls for each of the project alternatives shown in Table A.1.

Option	Lifts per Year	Ship Calls per Year	Ship Calls per Day
1995	848,536	1,460	4.0
No Build	1,258,925	1,053	2.9
A	1,957,211	1,637	4.5
B	1,586,582	1,327	3.6
C	2,037,782	1,704	4.7
D	2,005,554	1,678	4.6

Table A.1
Ship Calls by Project Option

Assuming each ship is worked by two dockside cranes for two shifts per day and that the dockside crane productivity remains about 24 lifts per hour as it is today, each ship will be worked for an average of 1.6 days. Ships will spend longer than this in port due to docking and tie down time as well as other miscellaneous delays. Ships will be in Port for an average of two days per call, provided the Port continues to work ships seven days per week.

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Appendix J.3
Rail Terminal Traffic Analysis

PART ONE OF RAIL TERMINAL TRAFFIC ANALYSIS

FLEET INDUSTRIAL SUPPLY CENTER OAKLAND
DISPOSAL AND REUSE EIS/EIR

JOB NO. WC0337 PHASE 03

CONTENTS: PLATE 1 - SHOWING THE CAPACITY OF EACH RAIL TERMINAL EXISTING UNDER EACH ALTERNATIVE OPERATING THREE SEPARATE LEVELS OF EFFICIENCY. ALSO, THE PROJECTED EXTIMATED NUMBER OF GATE MOVES AND TRUCK TRUCK TRIPS THAT WOULD BE REQUIRED TO OPERATE EACH TERMINAL AT EACH OF THOSE LEVELS.

The assumptions made to generate the numbers are given at the bottom of the table. The assumptions are based on information obtained from existing rail terminals and model terminals that have been conceptuallly designed under previous studies.

November 5, 1996

NOLTE and ASSOCIATES, Inc.
Engineers / Planners / Surveyors

PLATE I - TRAFFIC ESTIMATES TO & FROM

ALTERNATIVE	ANNUAL LIFTS (CAPACITY) (in thousands)				TOTAL ANNUAL LIFTS ths'ds (CAPACITY)	(l) GATE MOVES (CAPACITY) (per day)			TOTAL D'LY GA MOVE (CAPACI
	OPERATION	UP	SP	BNSF		UP	SP	BNSF	
CURRENT	CURRENT	(a) 102	(b) 158	(c) Richm'nd 24	284	431	667	(Richmond) 101	1,199
	SUSTAINABLE	(d) 135	(e) 250	(c) 24	409	570	1,056	101	1,727
	CONSTRAINED	(d) 154	(e) 300	(c) 24	478	650	1,267	101	2,018
NO BUILD (ALT E)	SUSTAINABLE	(d) 135	(e) 250	(c) Richm'nd 24	409	570	1,056	101	1,727
	CONSTRAINED	(d) 154	(e) 300	(c) 24	478	650	1,267	101	2,018
	GRIDLOCKED	(d) 194	(e) 359	(c) 24	577	819	1,516	101	2,43
A	SUSTAINABLE	(j) 1,242			1,242	5,244			5,24
	CONSTRAINED	(j) 1,458			1,458	6,156			6,15
	GRIDLOCKED	(j) 1,782			1,782	7,524			7,52
B	SUSTAINABLE	(d) 135	(f) 252	(i) Port 386	773	570	1,064	1,630	3,26
	CONSTRAINED	(d) 154	(f) 276	(i) 429	859	650	1,165	1,811	3,62
	GRIDLOCKED	(d) 194	(f) 361	(i) 554	1,109	819	1,524	2,339	4,68
C	SUSTAINABLE	(g) 609		(h) Port 600	1,209	2,571		(Port) 2,533	5,10
	CONSTRAINED	(g) 660		(h) 650	1,310	2,787		2,744	5,53
	GRIDLOCKED	(g) 874		(h) 860	1,734	3,690		3,631	7,32
D	SUSTAINABLE	(k) 1,156			1,156	4,881			4,88
	CONSTRAINED	(k) 1,357			1,357	5,730			5,73
	GRIDLOCKED	(k) 1,658			1,658	7,000			7,00

(a) Very recent figure obtained from UP.
(b) Very recent figure obtained from SP.
(c) 15% of total 160,000 lifts recently obtained from BN/SF (15% attributable to Port of Oakland).
(d) Joint Intermodal Terminal (JIT) Operational Analysis Report, page 39.
(e) JIT Operational Analysis Report, page 42 (adjusted for lift demand Alt E).
(f) Preliminary Draft, Proposed Expanded Southern Pacific Intermodal Terminal - Version 3.
(g) Preliminary Draft, Proposed Expanded Southern Pacific Intermodal Terminal - Version 2.
(h) JIT Operating Plan Report, page 57 (based on track under crane).
(i) JIT Operating Plan Report, page 57 (reducing track under crane by tracks #6 and #7, lost to support tracks).
Note: It is assumed that under Alternate B the rail terminal facilities would expand capacity in accordance with the demand for lifts, and there would be close to a 50/50 split betweem UP (merged) and BNSF.
(j) JIT Operating Plan Report, page 2 of Appendix A.

(k) JIT Ope
(l) Average
(m) The nur
Note: A
(n) The nur
the nun
Notes:
A. Under "
costs a
3. Gridl
B. Gate M
C. The tat

) & FROM INTERMODAL FACILITIES (RR)

) NSF	TOTAL D'LY GATE MOVES (CAPACITY)	(m) DAILY TRUCK TRIPS Based on Gate Moves UP	SP	BNSF	TOTAL DAILY TRUCK TRIPS	(n) JOBS ON SITE Based on Lifts (Capacity) UP	SP	BNSF	TOTAL RAIL TERMINAL JOBS
hmond) 101	1,199	689	1,067	(Richmond) 162	1,919	55	72	N/A	127
101	1,727	912	1,689	162	2,763	67	107	N/A	174
101	2,018	1,040	2,027	162	3,229	70	123	N/A	193
101	1,727	912	1,689	(Richmond) 162	2,763	67	107	N/A	174
101	2,018	1,040	2,027	162	3,229	70	123	N/A	193
101	2,436	1,311	2,425	162	3,898	82	130	N/A	212
	5,244	8,390			8,390	350			350
	6,156	9,850			9,850	400			400
	7,524	12,038			12,038	427			427
1,630	3,264	912	1,702	(Port) 2,608	5,222	67	150	167	384
1,811	3,627	1,040	1,865	2,898	5,803	70	167	178	415
2,339	4,682	1,311	2,439	3,743	7,492	82	183	204	469
(Port) 2,533	5,105	4,114		(Port) 4,053	8,167	210		208	418
2,744	5,531	4,459		4,391	8,850	222		220	442
3,631	7,321	5,904		5,810	11,714	256		254	510
	4,881	7,809			7,809	343			343
	5,730	9,167			9,167	375			375
	7,000	11,201			11,201	418			418

(k) JIT Operating Plan Report, page 2 of Appendix A (proportioned by track under crane).

(l) Average daily gate moves calculated by dividing annual lifts by 360 days and multiplying by 1.52 gate moves/lift.

(m) The number of daily truck trips is 1.6 times the Gate Moves, a factor thought to be conservatively high.
Note: At rail terminals, moves through the gates involving empty chassis are counted as gate moves.

(n) The number of employees are taken from known and modeled facilities, the jobs on site under gridlocked conditions are 1.43 times the number required for sustainable conditions minus 15% assumed constant (supervisors etc).

Notes:

A. Under "Annual Lifts" three levels of operation are referred to by the table: 1. Sustainable is near comfortable capacity wherein lift costs are minimized. 2. Constrained is beyond the comfortable capacity of the infrastructure and a premium is paid in cost per lift. 3. Gridlocked is operating at maximum capacity with maximum effort.

B. Gate Moves = Gate Transactions. They do not include truck tractors without chassis' or trailers (Bobtails).

C. The table on page 2 shows comparison between lift capacities and demand (projected number of Int'l., domestic, & trailers.)

PART TWO OF RAIL TERMINAL TRAFFIC ANALYSIS

FLEET INDUSTRIAL SUPPLY CENTER OAKLAND
DISPOSAL AND REUSE EIS/EIR

JOB NO. WC0337 PHASE 03

The assumptions made to estimate the numbers of trains are based on information given by the various railroads, information taken from the recent Union Pacific/ Southern Pacific merger and previous studies.

November 5, 1996

NOLTE and ASSOCIATES, Inc.
Engineers · Planners · Surveyors

ALTERNATIVE: CURRENT (POST-MERGER) (BELOW SUSTAINABLE)

Segment	TRAIN TYPE														TOTAL DAILY TRAINS
	EASTBOUND (AWAY FROM 7TH STREET)							WESTBOUND (TOWARDS 7TH STREET)							
	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	
A	2	8		4	2			2	8		3	3			32
B	2	8		4	2	**2	2	2	8		3	3	**2	2	40
C	2	8					2	2	8					2	24
D	*5	*13					2	*5	*13					2	40
E	*5	*13		2		2		*5	*13		2		2		44
F	1	3		2		2		1	3		2		2		16

* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

** BNSF TRAINS

PASS - PASSENGER TRAIN
BNSF-IM - BURLINGTON NORTHERN SANTA FE INTERMODAL TRAIN
TF-M - THRU FREIGHT, MANIFEST
IM - INTERMODAL TRAIN
LOC - LOCAL FREIGHT TRAIN
SW - SWITCHER TRAIN

ALTERNATIVE:NO BUILD (GRIDLOCKED)

Segment	TRAIN TYPE														TOTAL DAILY TRAINS
	EASTBOUND (AWAY FROM 7TH STREET)							WESTBOUND (TOWARDS 7YH STREET)							
	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	
A	2	10		4	***4			2	10		5	***5			42
B	2	10		4	4	**2	1	2	10		4	5	**2	1	47
C	2	10					1	2	10					1	26
D	*5	*15					1	*5	*15					1	42
E	*5	*15		2		2		*5	*15		2		2		48
F	1	5		2		2		1	5		2		2		20

* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

** BNSF TRAINS (NO CHANGE FROM CURRENT POST-MERGER CONDITIONS)

*** CORRESPONDS TO THE 9 INTERMODAL TRAINS/DAY PER TRAIN ANALYSIS AND ASSUMPTIONS

ALTERNATIVE: A (SUSTAINABLE)

Segment	TRAIN TYPE														TOTAL DAILY TRAINS
	EASTBOUND (AWAY FROM 7TH STREET)							WESTBOUND (TOWARDS 7TH STREET)							
	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	
A	2	10	***4	4	5			2	10	***4	4	5			50
B	2	10	***4	4	5	**1	1	2	10	***4	4	5	**1	1	54
C	2	10					1	2	10					1	26
D	*5	*15					1	*5	*15					2	43
E	*5	*15		2		2		*5	*15		2		2		48
F	1	5		2		2		1	5		2		2		20

* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

** BNSF TRAINS

*** ASSUMES BNSF HAS 40% TO 50% OF THE INTERMODAL TRAIN TRAFFIC

PASS - PASSENGER TRAIN
BNSF-IM - BURLINGTON NORTHERN SANTA FE INTERMODAL TRAIN
TF-M - THRU FREIGHT, MANIFEST
IM - INTERMODAL TRAIN
LOC - LOCAL FREIGHT TRAIN
SW - SWITCHER TRAIN

ALTERNATIVE: B (SUSTAINABLE)

Segment	TRAIN TYPE														TOTAL DAILY TRAINS
	EASTBOUND (AWAY FROM 7TH STREET							WESTBOUND (TOWARDS 7TH STREET)							
	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	
A	2	10	3	4	3			2	10	3	4	3			44
B	2	10	3	4	3	**1	1	2	10	3	4	3	**1	1	48
C	2	10					1	2	10					1	26
D	*5	*15					1	*5	*15					1	42
E	*5	*15		2		2		*5	*15		2		2		48
F	1	5		2		2		1	5		2		2		20

* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

** BNSF TRAINS

ALTERNATIVE: C (CONSTRAINED)

Segment	TRAIN TYPE														TOTAL DAILY TRAINS
	EASTBOUND (AWAY FROM 7TH STREET)							WESTBOUND (TOWARDS 7TH STREET)							
	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	
A	2	10	5	4	4			2	10	5	4	5			51
B	2	10	5	4	4	**1	1	2	10	5	4	5	**1	1	55
C	2	10					1	2	10					1	26
D	*5	*15					1	*5	*15					1	42
E	*5	*15		2		2		*5	*15		2		2		48
F	1	5		2		2		1	5		2		2		20

* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

** BNSF TRAINS

PASS - PASSENGER TRAIN
BNSF-IM - BURLINGTON NORTHERN SANTA FE INTERMODAL TRAIN
TF-M - THRU FREIGHT, MANIFEST
IM - INTERMODAL TRAIN
LOC - LOCAL FREIGHT TRAIN
SW - SWITCHER TRAIN

ALTERNATIVE: D (CONSTRAINED)

Segment	TRAIN TYPE														TOTAL DAILY TRAINS
	EASTBOUND (AWAY FROM 7TH STREET)							WESTBOUND (TOWARDS 7TH STREET)							
	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	1200 PASS	600 PASS	6000 BNSF-IM	6000 TF-M	6000 IM	1200 LOC	300 SW	
A	2	10	***4	4	5			2	10	***4	4	6			51
B	2	10	***4	4	5	**1	1	2	10	***4	4	6	**1	1	55
C	2	10					1	2	10					1	26
D	*5	*15					1	*5	*15					1	42
E	*5	*15		2		2		*5	*15		2		2		48
F	1	5		2		2		1	5		2		2		20

* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

*** BNSF TRAINS

*** ASSUMES BNSF HAS 40% TO 50% OF THE INTERMODAL TRAIN TRAFFIC

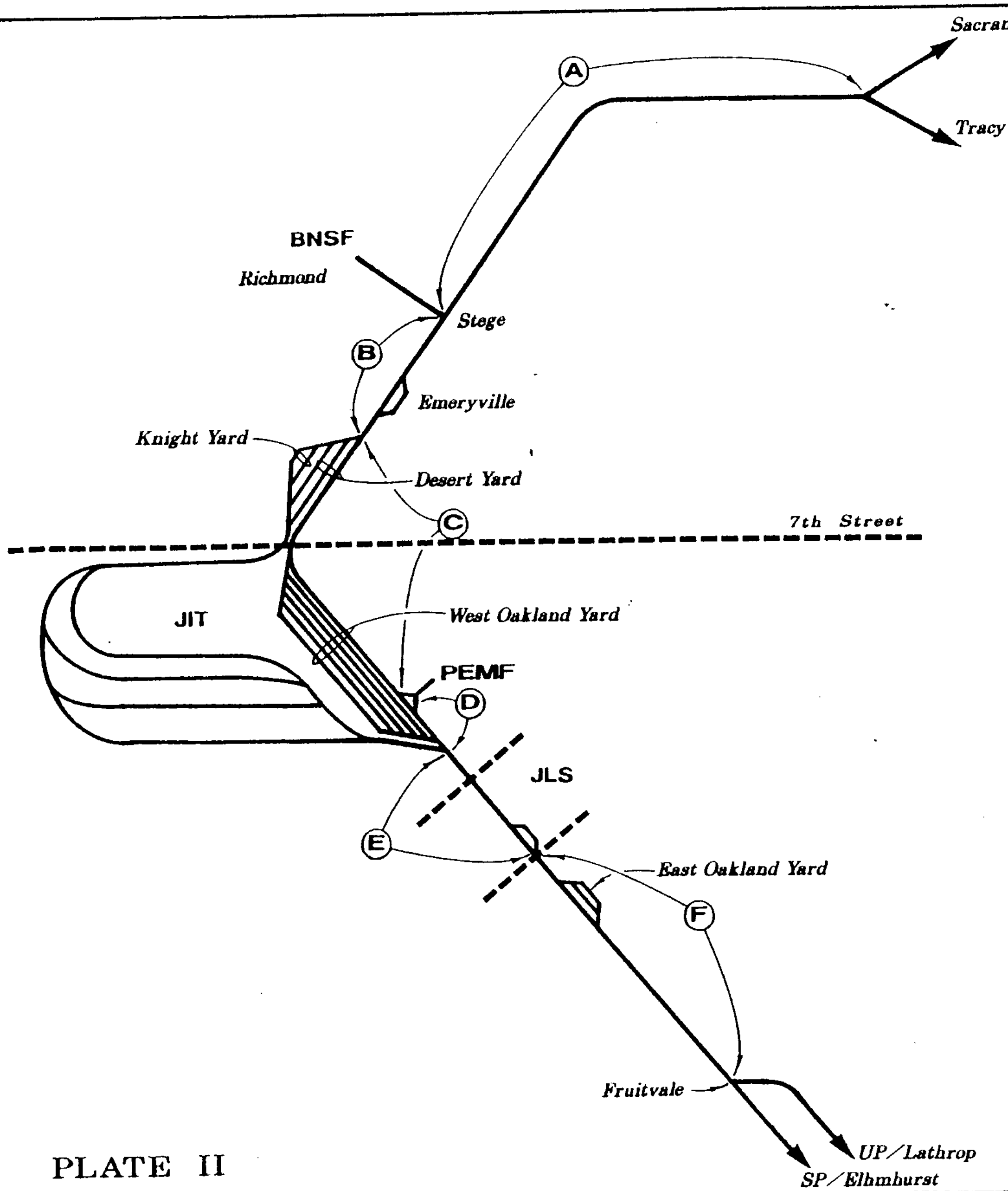

PLATE II

ALTERNATIVE	TRAIN TRAFFIC IN SEGMENT					
	A	B	C	D	E	F
CURRENT	32	40	24	40	44	16
NO BUILD (ALT E)	42	47	26	42	48	20
A	50	54	26	43	48	20
B	44	48	26	42	48	20
C	51	55	26	42	48	20
D	51	55	26	42	48	20

LEGEND

TRAIN TRAFFIC - AVERAGE NO. OF TRAINS IN EACH RAIL SEGMENT DAILY
BNSF............BURLINGTON NORTHERN SANTA FE INTERMODAL FACILITY
JIT.................JOINT INTERMODAL TERMINAL -PORT OF OAKLAND
PEMF.............AMTRAK - PASSENGER EQUIPMENT MAINTENANCE FACILITY
JLS.................JACK LONDON SQUARE
Note: Stege is the junction of the Richmond Branch and the Main Line to Sacramento.

TRAIN ANALYSIS AND ASSUMPTIONS

A typical 6000 ft. train is assumed to carry an average of 8.75 trailers and 166.25 containers (175 vans). The trailers are most commonly carried on 89 ft. flatcars and a space utilization of approximately 80% is assumed. The containers are most commonly carried on doublestack platforms 61 ft. in length. A slot utilization factor of 1.83 containers per platform is used here because the Union Pacific used this factor for projecting numbers of intermodal trains in their recent merger application.

A rail terminal with a lift capacity of 100,000 annual lifts would require the following average number of trains per day.

100,000 divided by 360 days divided by 175 equals 1.587302 trains/day

Using this model, the relative number of trains required for each of the rail terminals at the projected level of operation under each alternative follow:

Alternative	Facility	Lifts in Thousands	Function	Multiplier	Function	Ave. Daily Trains
Current (Existing)	UP	1.02	times	1.59	equals	1.62 trains/day
	SP	1.58	times	1.59	equals	2.51 trains/day
	Richmond	0.24	tmes	1.59	equals	0.38 trains/day
	Merged UP					4.13 trains/day
	Total					4.51 trains/day
No Build Gridlock	UP	1.94	times	1.59	equals	3.08 trains/day
	SP	3.59	times	1.59	equals	5.70 trains/day
	Richmond	0.24	tmes	1.59	equals	0.38 trains/day
	Merged UP					8.78 trains/day
	Total					9.16 trains/day
Alt A Sust'n'ble	JIT	11.40	times	1.59	equals	18.09 trains/day
Alt B Sust'n'ble	UP	1.05	times	1.59	equals	1.67 trains/day
	SP	3.12	times	1.59	equals	4.96 trains/day
	BNSFport	3.51		1.59	equals	5.57 trains/day
	Merged UP					6.63 trains/day
	Total					12.21 trains/day
Alt C Constr'nd	Merged UP	6.05	times	1.59	equals	9.61 trains/day
	BNSFport	6.14	tmes	1.59	equals	9.75 trains/day
	Total					19.36 trains/day
Alt D Constr'nd	JIT	11.89	times	1.59	equals	18.87 trains/day

See "Traffic Estimates To & From Intermodal Facilities (RR)" for levels of operation, pg.1, Part 1.

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Current	8-600	4.91	8-600	4.91	13-600	12.40	3-600	1.67
Eastb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	2-6000	3.27	2-6000	3.27	2-1200	2.81	2-1200	1.68
			2-1200	1.45				
			2-300	1.11				
Sub-Total		16.16		18.73		32.32		8.48
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	

Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			8-600	5.21			3-600	2.01
			4-6000	8.05			2-6000	7.80
			2-6000	4.02			2-1200	2.36
			2-1200	1.60				
			2-300	1.15				
Sub-Total				21.64				13.01
			67th,66th,65th St.'s				5th Avenue	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Current	8-600	4.91	8-600	4.91	13-600	12.40	3-600	1.67
Westb'nd	3-6000	4.90	3-6000	4.90	2-6000	10.07	2-6000	4.40
	3-6000	4.90	3-6000	4.90	2-1200	2.81	2-1200	1.68
			2-1200	1.45				
			2-300	1.11				
Sub-Total		16.16		18.73		32.32		8.48
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			8-600	5.21			3-600	2.01
			3-6000	6.04			2-6000	7.80
			3-6000	6.04			2-1200	2.36
			2-1200	1.60				
			2-300	1.15				
Sub-Total	67th,66th,65th St's.			21.64	5th Avenue			13.01
Totals East & West	Cutting Blvd. 32.33		Gilman-Bancroft 37.46		Market-Oak 64.63		29th-37th Avenues 16.96	
From all Trains in Minutes			67th,66th,65th St's. 43.28				5th Avenue 26.03	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	
No Build	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Eastb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
			2-1200	1.45				
			1-300	0.56				
Sub-Total		20.66		22.67		34.22		8.87
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			4-6000	8.05			2-6000	0.73
			4-6000	8.05			2-1200	2.36
			2-1200	1.60				
			1-300	0.58				
Sub-Total				26.39				7.28
			67th,66th,65th St.'s				5th Avenue	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
No Build	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Westb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
			2-1200	1.45				
			1-300	0.56				
Sub-Total	Cutting Blvd.	20.66	Gilman-Bancroft	22.67	Market-Oak	34.22	29th-37th Avenues	9.59
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			4-6000	8.05			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			2-1200	1.60				
			1-300	0.58				
Sub-Total			67th,66th,65th St.'s	26.39			5th Avenue	14.35
Totals East & West From all Trains in Minutes	Cutting Blvd.	41.32	Gilman-Bancroft	45.34	Market-Oak	68.44444	29th-37th Avenues	18.46
			67th,66th,65th St's.	52.78			5th Avenue	21.63

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "A"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Eastb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	5-6000	8.17	5-6000	8.17				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		28.83		30.11		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	

Speed	45-45			40-20	
Segment	B			F	
	2-1200	1.60		1-1200	0.84
	10-600	6.51		5-600	3.35
	4-6000	8.05		2-6000	7.80
	4-6000	8.05		2-1200	2.36
	5-6000	10.06			
	1-1200	0.80			
	1-300	0.58			
Sub-Total		35.65			14.35
	67th,66th,65th St.'s			5th Avenue	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "A"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Westb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	5-6000	8.17	5-6000	8.17				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		28.83		30.11		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			4-6000	8.05			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			5-6000	10.06				
			1-1200	0.80				
			1-300	0.58				
Sub-Total	67th,66th,65th St.'s			35.65	5th Avenue			14.35
Totals	Cutting	57.65	Gil-Ban	60.22	Mark-Oak	68.44	29th-37th	19.18
E and W	67th,66th,65th St's.			71.29	5th Avenue			28.71

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "B"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Eastb'nd	3-6000	4.90	3-6000	4.90	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	3-6000	4.90	3-6000	4.90				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		23.93		25.21		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	

Speed	45-45			40-20	
Segment	B			F	
	2-1200	1.60		1-1200	0.84
	10-600	6.51		5-600	3.35
	3-6000	6.04		2-6000	7.80
	4-6000	8.05		2-1200	2.36
	3-6000	6.04			
	1-1200	0.80			
	1-300	0.58			
Sub-Total		29.61			14.35
	67th,66th,65th St.'s			5th Avenue	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "B"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Westb'nd	3-6000	4.90	3-6000	4.90	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	3-6000	4.90	3-6000	4.90				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		23.93		25.21		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			3-6000	6.04			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			3-6000	6.04				
			1-1200	0.80				
			1-300	0.58				
Sub-Total	67th,66th,65th St.'s			29.61	5th Avenue			14.35
Totals	Cutting	47.85	Gil-Banc	50.42	Mark-Oak	68.44444	29th-37th	19.18
E & W	67th,66th,65th St's.			59.22	5th Avenue			28.71

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "C"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Eastb'nd	5-6000	8.17	5-6000	8.17	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	4-6000	6.54	4-6000	6.54				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		28.83		30.11		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	

Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			5-6000	10.06			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			4-6000	8.05				
			1-1200	0.80				
			1-300	0.58				
Sub-Total				35.65				14.35
			67th,66th,65th St.'s				5th Avenue	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "C"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Westb'nd	5-6000	8.17	5-6000	8.17	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	5-6000	8.17	5-6000	8.17				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		30.46		31.74		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			5-6000	10.06			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			5-6000	10.06				
			1-1200	0.80				
			1-300	0.58				
Sub-Total	67th,66th,65th St.'s			37.66	5th Avenue			14.35
Totals	Cutting	59.29	Gil-Banc	61.85	Mark-Oak	68.44444	29th-37th	19.18
E & W	67th,66th,65th St's.			73.30	5th Avenue			28.71

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "D"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Eastb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	5-6000	8.17	5-6000	8.17				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		28.83		30.11		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			4-6000	8.05			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			5-6000	10.06				
			1-1200	0.80				
			1-300	0.58				
Sub-Total				35.65				14.35
			67th,66th,65th St.'s				5th Avenue	

TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

Constant	Length	Constant	Speed MPH	Time SEC	Time MIN
ie. T=30+(1200/(1.47*45))=48 seconds or 0.8 minutes					
30	6000	1.47	60	98.03	1.63
30	1200	1.47	60	43.61	0.73
30	600	1.47	60	36.80	0.61
30	300	1.47	60	33.40	0.56
30	6000	1.47	45	120.70	2.01
30	1200	1.47	45	48.14	0.80
30	600	1.47	45	39.07	0.65
30	300	1.47	45	34.54	0.58
30	6000	1.47	40	132.04	2.20
30	1200	1.47	40	50.41	0.84
30	600	1.47	40	40.20	0.67
30	300	1.47	40	35.10	0.59
30	6000	1.47	20	234.08	3.90
30	1200	1.47	20	70.82	1.18
30	600	1.47	20	50.41	0.84
30	300	1.47	20	40.20	0.67
30	6000	1.47	15	302.11	5.04
30	1200	1.47	15	84.42	1.41
30	600	1.47	15	57.21	0.95
30	300	1.47	15	43.61	0.73

GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

Speed	60-60		60-60		15-15		60-40	
Segment	A		B		E		F	
Alt. & Dir.	2-1200	1.45	2-1200	1.45	5-1200	7.04	1-1200	0.73
Alt "D"	10-600	6.13	10-600	6.13	15-600	14.30	5-600	2.78
Westb'nd	4-6000	6.54	4-6000	6.54	2-6000	10.07	2-6000	4.40
	4-6000	6.54	4-6000	6.54	2-1200	2.81	2-1200	1.68
	6-6000	9.80	6-6000	9.80				
			1-1200	0.73				
			1-300	0.56				
Sub-Total		30.46		31.74		34.22		9.59
	Cutting Blvd.		Gilman-Bancroft		Market-Oak		29th-37th Avenues	
Speed			45-45				40-20	
Segment			B				F	
			2-1200	1.60			1-1200	0.84
			10-600	6.51			5-600	3.35
			4-6000	8.05			2-6000	7.80
			4-6000	8.05			2-1200	2.36
			6-6000	12.07				
			1-1200	0.80				
			1-300	0.58				
Sub-Total	67th,66th,65th St.'s			37.66	5th Avenue			14.35
Totals	Cutting	59.29	Gil-Banc	61.85	Mark-Oak	68.44	29th-37th	19.18
E & W	67th,66th,65th St's.			73.30	5th Avenue			28.71

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Appendix J.4
Marine and Rail Traffic Background Data and Assumptions

Table J.4-1
FISCO/Port Vision 2000 EIS/EIR
Marine / Rail Traffic Assumptions

Marine Container Distribution

Type of Trip	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
To / From Rail	20%	5%	31.1%	15.0%	33.8%	32.8%
Over-the-road	80%	95%	68.9%	85.0%	66.2%	67.2%

Marine / Rail Factors

Parameter	Assumptions		Comment
	Marine	Rail	
TEUs / Container	1.75		
1996/1995 Growth	107%		
TEUs / Acre / Year			
1995	3,168		
1996	3,390		
2010	4,700		
Weeks per year	52	52	
Days per week	5	7	
Peak Week / Average Week	1.25	1.19	
Peak Weekday/Avg. Day of Wee	1	1.33	Rail peak factor accounts for slow weekends.
Gate Moves / Lift	1.33	1.52	
Truck Trips / Gate Move - Total	Varies	1.6	
Over-the-Road	1.65		
Marine - Rail	1.9		

Table J.4-2
FISCO/Port Vision 2000 EIS/EIR
Rail Background Data

Peak / Average Activity Factor
Based on 2010 Train Arrival and Departures (1)

	Total
Peak	32
Average	27
Factor	1.19

Peak Day / Average Day Factor Calculation
Based On Rail Terminal Gate Transactions (2)

Day	Railroad		Total
	SP	UP	
Mon	950	800	1,750
Tue	950	970	1,920
Wed	950	900	1,850
Thu	950	800	1,750
Fri	950	500	1,450
Sat	250	700	950
Sun	200	250	450
Total	5,200	4,920	10,120
Average	743	703	1,446
Maximum	950	970	1,920
Factor	1.28	1.38	1.33

(1) Provided by Nolte and Associates.

(2) Joint Intermodal Terminal Operating Plan, Summit/Lynch consulting Engineers, et. al., Feb. 1995.

Table J.4-3
FISCO/Port Vision 2000 EIS/EIR
Marine Traffic

Marine Terminal Acres

Zone / Terminal	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0.0	0.0	260.0	100.0	290.0	278.0
6 Middle Harbor	131.7	131.7	131.7	131.7	131.7	131.7
7 7th St. Harbor	156.7	156.7	156.7	156.7	156.7	156.7
8 Outer Harbor	180.4	180.4	180.4	202.4	180.4	180.4
Total	468.7	468.7	728.7	590.7	758.7	746.7

Annual Lifts (Containers)

Zone / Terminal	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0	0	698,286	268,571	778,857	746,629
6 Middle Harbor	255,109	353,709	353,709	353,709	353,709	353,709
7 7th St. Harbor	303,458	420,744	420,744	420,744	420,744	420,744
8 Outer Harbor	349,366	484,395	484,395	543,535	484,395	484,395
Total (rounded)	907,934	1,258,848	1,957,134	1,586,559	2,037,705	2,005,477

Weekday Truck Trips - Over-the-Road

Zone / Terminal	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0	0	5,076	2,409	5,440	5,294
6 Middle Harbor	2,153	3,545	2,571	3,172	2,470	2,508
7 7th St. Harbor	2,561	4,217	3,059	3,773	2,939	2,983
8 Outer Harbor	2,949	4,855	3,521	4,874	3,383	3,434
Total	7,663	12,617	14,227	14,228	14,232	14,219

Weekday Truck Trips - To and From Rail

Zone / Terminal	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0	0	2,638	489	3,198	2,975
6 Middle Harbor	620	215	1,336	645	1,452	1,409
7 7th St. Harbor	737	256	1,590	767	1,728	1,677
8 Outer Harbor	849	294	1,830	991	1,989	1,930
Total	2,206	765	7,395	2,891	8,368	7,992

Weekday Truck Trips - Total

Zone / Terminal	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0	0	7,714	2,898	8,638	8,269
6 Middle Harbor	2,773	3,760	3,908	3,817	3,923	3,917
7 7th St. Harbor	3,299	4,473	4,648	4,540	4,666	4,660
8 Outer Harbor	3,798	5,149	5,351	5,865	5,372	5,365
Total	9,869	13,382	21,622	17,119	22,600	22,210

Table J.4-4
FISCO/Port Vision 2000 EIS/EIR
Rail Traffic

Annual Lifts - Sustainable

Zone / Terminal	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
3 J.I.T.			1,242,000	450,000	600,000	1,156,000
4 SP	158,000	250,000		400,000	609,000	
5 UP	102,000	135,000		135,000		
11 BN/SF	24,000	24,000				
Total	284,000	409,000	1,242,000	985,000	1,209,000	1,156,000

Annual Lifts - Constrained

Zone / Terminal	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
3 J.I.T.			1,458,000	490,000	650,000	1,357,000
4 SP		300,000		450,000	660,000	
5 UP		154,000		154,000		
11 BN/SF		24,000				
Total		478,000	1,458,000	1,094,000	1,310,000	1,357,000

Annual Lifts - Gridlocked

Zone / Terminal	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
3 J.I.T.			1,782,000	645,000	860,000	1,658,000
4 SP		359,000		574,000	874,000	
5 UP		194,000		194,000		
11 BN/SF		24,000				
Total		577,000	1,782,000	1,413,000	1,734,000	1,658,000

Note: the column heads "Existing" through "Reduced Harbor Fill" are printed under a spanning heading "Project Alternative".

Table J.4-5
FISCO/Port Vision 2000 EIS/EIR
Traffic at the Port of Oakland

Annual Lifts - Marine Terminals

Alternative	Marine Terminal Container Throughput			
	Total	To / From Rail		Other
		Percent	Number	(over-the-road)
Existing	907,934	20%	181,587	726,347
No Project	1,258,848	5%	62,942	1,195,906
Max. Marine/Max. Rail	1,957,134	31.1%	608,669	1,348,465
Min. Marine/Min. Rail	1,586,559	15.0%	237,984	1,348,575
Max. Marine/Min. Rail	2,037,705	33.8%	688,744	1,348,961
Reduced Harbor Fill	2,005,477	32.8%	657,796	1,347,680

Annual Lifts - Railyards

Alternative	Rail Intermodal Throughput								
	Capacity	Operating	To / From Marine		Other (domestic & trailers)		Total	Surplus	
		Efficiency	Number	Percent	Number	Percent		Capacity (1)	
Existing	284,000	Existing	181,587	64%	102,413	36%	284,000	0	
No Project	577,000	Gridlocked	62,942	11%	514,058	89%	577,000	0	(2)
Max. Marine/Max. Rail	1,242,000	Sustainable	608,669	53%	531,000	47%	1,139,669	102,331	
Min. Marine/Min. Rail	773,000	Sustainable	237,984	31%	531,000	69%	768,984	4,016	
Max. Marine/Min. Rail	1,310,000	Constrained	688,744	56%	531,000	44%	1,219,744	90,256	
Reduced Harbor Fill	1,357,000	Constrained	657,796	55%	531,000	45%	1,188,796	168,204	

Weekday Truck Trips

Alternative	Marine Terminals				Rail Intermodal Terminals				
	Total	To / From Rail		Other	Total	To / From Marine		Other (domestic & trailers)	
		Number	Percent	(over-the-road)		Number	Percent	Number (3)	Percent
Existing	9,869	2,206	22.4%	7,663	2,987	2,206	74%	781	26%
No Project	13,382	765	5.7%	12,617	5,209	765	15%	4,444	85%
Max. Marine/Max. Rail	21,622	7,395	34.2%	14,227	11,985	7,395	62%	4,590	38%
Min. Marine/Min. Rail	17,119	2,891	16.9%	14,228	7,482	2,891	39%	4,590	61%
Max. Marine/Min. Rail	22,600	8,368	37.0%	14,232	12,958	8,368	65%	4,590	35%
Reduced Harbor Fill	22,210	7,992	36.0%	14,219	12,582	7,992	64%	4,590	36%

(1) The surplus capacity for each alternative shows the number of additional lifts that could be accommodated at the indicated operating efficiency level.

(2) The domestic and trailer demand at the railyards would be 531,000 (Summit Lynch 1995); therefore, 17,000 containers will be diverted.

(3) Domestic and trailer truck trips at the railyards (for the project alternatives) are proportional to the number of annual lifts.

Table J.4-6
FISCO/Port Vision 2000 EIS/EIR
Marine Traffic

Marine Terminal Acres

Zone / Terminal	Project Alternative					
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0.0	0.0	260.0	100.0	290.0	278.0
6 Middle Harbor	131.7	131.7	131.7	131.7	131.7	131.7
7 7th St. Harbor	156.7	156.7	156.7	156.7	156.7	156.7
8 Outer Harbor	180.4	180.4	180.4	202.4	180.4	180.4
Total	468.7	468.7	728.7	590.7	758.7	746.7

Employees

Zone / Terminal	Project Alternative					
Employees / Acre	2.73	3.91	3.91	3.91	3.91	3.91
	Existing	No Project	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1 New Harbor	0	0	1,018	391	1,135	1,088.2
6 Middle Harbor	360	516	516	516	516	515.5
7 7th St. Harbor	428	613	613	613	613	613.2
8 Outer Harbor	492.6	706.0	706.0	792.2	706.0	706.0
Total	1,280.3	1,834.7	2,852.4	2,312.3	2,969.8	2,922.9

A	AM Trips	348	566
U	AM Trips / Employee	0.27	0.31
T	PM Trips	359	514
O	PM Trips / Employee	0.28	0.28

Appendix J.5
Peak Hour Marine Terminal Truck Traffic Generation

Table J.5-1
Marine Terminal Travel Characteristics
Existing Condtions

Auto Trips

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6:00	93	5	98	110	6	116	127	7	134	330	18	348
7:00	106	6	112	126	7	133	145	8	153	377	21	398
8:00	62	3	65	73	4	77	85	4	89	220	11	231
9:00	52	6	58	62	7	69	72	8	80	186	21	207
10:00	40	27	67	48	32	80	55	37	92	143	96	239
11:00	43	43	86	51	51	102	58	58	116	152	152	304
12:00	47	47	94	56	56	112	64	64	128	167	167	334
13:00	39	39	78	46	46	92	53	53	106	138	138	276
14:00	16	65	81	19	77	96	22	89	111	57	231	288
15:00	5	96	101	6	114	120	7	131	138	18	341	359
16:00	5	94	99	6	112	118	7	128	135	18	334	352
17:00	8	74	82	10	88	98	11	101	112	29	263	292

Truck Trips

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6:00	73	0	73	76	0	76	91	0	91	240	0	240
7:00	90	0	90	94	0	94	113	0	113	297	0	297
8:00	140	149	289	147	156	303	176	188	364	463	493	956
9:00	206	252	458	216	264	480	259	317	576	681	833	1,514
10:00	169	187	356	177	196	373	212	236	448	558	619	1,177
11:00	213	191	404	223	200	423	268	240	508	704	631	1,335
12:00	88	150	238	92	157	249	110	189	299	290	496	786
13:00	209	149	358	219	156	375	263	187	450	691	492	1,183
14:00	160	185	345	168	194	362	202	233	435	530	612	1,142
15:00	115	138	253	120	144	264	144	173	317	379	455	834
16:00	30	73	103	32	76	108	38	91	129	100	240	340
17:00	0	15	15	0	16	16	0	19	19	0	50	50

Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6:00	146	0	146	152	0	152	182	0	182	480	0	480
7:00	180	0	180	188	0	188	226	0	226	594	0	594
8:00	280	298	578	294	312	606	352	376	728	926	986	1,912
9:00	412	504	916	432	528	960	518	634	1,152	1,362	1,666	3,028
10:00	338	374	712	354	392	746	424	472	896	1,116	1,238	2,354
11:00	426	382	808	446	400	846	536	480	1,016	1,408	1,262	2,670
12:00	176	300	476	184	314	498	220	378	598	580	992	1,572
13:00	418	298	716	438	312	750	526	374	900	1,382	984	2,366
14:00	320	370	690	336	388	724	404	466	870	1,060	1,224	2,284
15:00	230	276	506	240	288	528	288	346	634	758	910	1,668
16:00	60	146	206	64	152	216	76	182	258	200	480	680
17:00	0	30	30	0	32	32	0	38	38	0	100	100

Total Passenger Car Equivalents for Trucks and Autos

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6:00	239	5	244	262	6	268	309	7	316	810	18	828
7:00	286	6	292	314	7	321	371	8	379	971	21	992
8:00	342	301	643	367	316	683	437	380	817	1,146	997	2,143
9:00	464	510	974	494	535	1,029	590	642	1,232	1,548	1,687	3,235
10:00	378	401	779	402	424	826	479	509	988	1,259	1,334	2,593
11:00	469	425	894	497	451	948	594	538	1,132	1,560	1,414	2,974
12:00	223	347	570	240	370	610	284	442	726	747	1,159	1,906
13:00	457	337	794	484	358	842	579	427	1,006	1,520	1,122	2,642
14:00	336	435	771	355	465	820	426	555	981	1,117	1,455	2,572
15:00	235	372	607	246	402	648	295	477	772	776	1,251	2,027
16:00	65	240	305	70	264	334	83	310	393	218	814	1,032
17:00	8	104	112	10	120	130	11	139	150	29	363	392

Table J.5-2
Marine Terminal Travel Characteristics
No Project Alternative

Auto Trips

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	151	8	159	180	9	189	207	11	218	538	28	566
8:00	88	5	93	105	6	111	121	6	127	314	17	331
9:00	75	8	83	89	10	99	103	11	114	267	29	296
10:00	57	38	95	68	46	114	79	52	131	204	136	340
11:00	61	61	122	73	73	146	84	84	168	218	218	436
12:00	67	67	134	80	80	160	92	92	184	239	239	478
13:00	56	56	112	66	66	132	76	76	152	198	198	396
14:00	23	93	116	28	110	138	32	127	159	83	330	413
15:00	7	137	144	9	163	172	10	188	198	26	488	514
16:00	7	134	141	8	160	168	10	184	194	25	478	503
17:00	12	106	118	14	126	140	16	145	161	42	377	419

Truck Trips

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	113	0	113	134	0	134	154	0	154	401	0	401
8:00	177	188	365	210	224	434	242	257	499	629	669	1,298
9:00	259	318	577	309	378	687	355	435	790	923	1,131	2,054
10:00	213	236	449	253	281	534	291	323	614	757	840	1,597
11:00	268	240	508	319	286	605	367	329	696	954	855	1,809
12:00	111	189	300	132	225	357	151	259	410	394	673	1,067
13:00	264	187	451	314	223	537	361	256	617	939	666	1,605
14:00	202	233	435	240	277	517	277	319	596	719	829	1,548
15:00	145	173	318	172	206	378	198	237	435	515	616	1,131
16:00	38	91	129	46	109	155	52	125	177	136	325	461
17:00	0	19	19	0	23	23	0	26	26	0	68	68

Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	226	0	226	268	0	268	308	0	308	802	0	802
8:00	354	376	730	420	448	868	484	514	998	1,258	1,338	2,596
9:00	518	636	1,154	618	756	1,374	710	870	1,580	1,846	2,262	4,108
10:00	426	472	898	506	562	1,068	582	646	1,228	1,514	1,680	3,194
11:00	536	480	1,016	638	572	1,210	734	658	1,392	1,908	1,710	3,618
12:00	222	378	600	264	450	714	302	518	820	788	1,346	2,134
13:00	528	374	902	628	446	1,074	722	512	1,234	1,878	1,332	3,210
14:00	404	466	870	480	554	1,034	554	638	1,192	1,438	1,658	3,096
15:00	290	346	636	344	412	756	396	474	870	1,030	1,232	2,262
16:00	76	182	258	92	218	310	104	250	354	272	650	922
17:00	0	38	38	0	46	46	0	52	52	0	136	136

Total Passenger Car Equivalents for Trucks and Autos

Hour Beginning	Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	377	8	385	448	9	457	515	11	526	1,340	28	1,368
8:00	442	381	823	525	454	979	605	520	1,125	1,572	1,355	2,927
9:00	593	644	1,237	707	766	1,473	813	881	1,694	2,113	2,291	4,404
10:00	483	510	993	574	608	1,182	661	698	1,359	1,718	1,816	3,534
11:00	597	541	1,138	711	645	1,356	818	742	1,560	2,126	1,928	4,054
12:00	289	445	734	344	530	874	394	610	1,004	1,027	1,585	2,612
13:00	584	430	1,014	694	512	1,206	798	588	1,386	2,076	1,530	3,606
14:00	427	559	986	508	664	1,172	586	765	1,351	1,521	1,988	3,509
15:00	297	483	780	353	575	928	406	662	1,068	1,056	1,720	2,776
16:00	83	316	399	100	378	478	114	434	548	297	1,128	1,425
17:00	12	144	156	14	172	186	16	197	213	42	513	555

Table J.5-3
Marine Terminal Travel Characteristics
Maximum Marine/Maximum Rail Alternative

Auto Trips

Hour Beginning	Zone 1 New Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	299	16	315	151	8	159	180	9	189	207	11	218	837	44	881
8:00	175	9	184	88	5	93	105	6	111	121	6	127	489	26	515
9:00	148	16	164	75	8	83	89	10	99	103	11	114	415	45	460
10:00	113	76	189	57	38	95	68	46	114	79	52	131	317	212	529
11:00	121	121	242	61	61	122	73	73	146	84	84	168	339	339	678
12:00	133	133	266	67	67	134	80	80	160	92	92	184	372	372	744
13:00	110	110	220	56	56	112	66	66	132	76	76	152	308	308	616
14:00	46	183	229	23	93	116	28	110	138	32	127	159	129	513	642
15:00	14	271	285	7	137	144	9	163	172	10	188	198	40	759	799
16:00	14	265	279	7	134	141	8	160	168	10	184	194	39	743	782
17:00	23	208	231	12	106	118	14	126	140	16	145	161	65	585	650

Truck Trips

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	231	0	231	117	0	117	139	0	139	160	0	160	647	0	647
8:00	362	386	748	183	195	378	218	232	450	251	268	519	1,014	1,081	2,095
9:00	532	652	1,184	270	330	600	321	393	714	369	452	821	1,492	1,827	3,319
10:00	436	484	920	221	245	466	263	292	555	303	336	639	1,223	1,357	2,580
11:00	550	493	1,043	279	250	529	331	297	628	381	342	723	1,541	1,382	2,923
12:00	227	388	615	115	197	312	137	234	371	157	269	426	636	1,088	1,724
13:00	541	384	925	274	195	469	326	231	557	375	266	641	1,516	1,076	2,592
14:00	415	478	893	210	242	452	250	288	538	288	331	619	1,163	1,339	2,502
15:00	297	356	653	150	180	330	179	214	393	206	247	453	832	997	1,829
16:00	79	188	267	40	95	135	47	113	160	54	130	184	220	526	746
17:00	0	39	39	0	20	20	0	24	24	0	27	27	0	110	110

Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	462	0	462	234	0	234	278	0	278	320	0	320	1,294	0	1,294
8:00	724	772	1,496	366	390	756	436	464	900	502	536	1,038	2,028	2,162	4,190
9:00	1,064	1,304	2,368	540	660	1,200	642	786	1,428	738	904	1,642	2,984	3,654	6,638
10:00	872	968	1,840	442	490	932	526	584	1,110	606	672	1,278	2,446	2,714	5,160
11:00	1,100	986	2,086	558	500	1,058	662	594	1,256	762	684	1,446	3,082	2,764	5,846
12:00	454	776	1,230	230	394	624	274	468	742	314	538	852	1,272	2,176	3,448
13:00	1,082	768	1,850	548	390	938	652	462	1,114	750	532	1,282	3,032	2,152	5,184
14:00	830	956	1,786	420	484	904	500	576	1,076	576	662	1,238	2,326	2,678	5,004
15:00	594	712	1,306	300	360	660	358	428	786	412	494	906	1,664	1,994	3,658
16:00	158	376	534	80	190	270	94	226	320	108	260	368	440	1,052	1,492
17:00	0	78	78	0	40	40	0	48	48	0	54	54	0	220	220

Total Passenger Car Equivalents for Trucks and Autos

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	761	16	777	385	8	393	458	9	467	527	11	538	2,131	44	2,175
8:00	899	781	1,680	454	395	849	541	470	1,011	623	542	1,165	2,517	2,188	4,705
9:00	1,212	1,320	2,532	615	668	1,283	731	796	1,527	841	915	1,756	3,399	3,699	7,098
10:00	985	1,044	2,029	499	528	1,027	594	630	1,224	685	724	1,409	2,763	2,926	5,689
11:00	1,221	1,107	2,328	619	561	1,180	735	667	1,402	846	768	1,614	3,421	3,103	6,524
12:00	587	909	1,496	297	461	758	354	548	902	406	630	1,036	1,644	2,548	4,192
13:00	1,192	878	2,070	604	446	1,050	718	528	1,246	826	608	1,434	3,340	2,460	5,800
14:00	876	1,139	2,015	443	577	1,020	528	686	1,214	608	789	1,397	2,455	3,191	5,646
15:00	608	983	1,591	307	497	804	367	591	958	422	682	1,104	1,704	2,753	4,457
16:00	172	641	813	87	324	411	102	386	488	118	444	562	479	1,795	2,274
17:00	23	286	309	12	146	158	14	174	188	16	199	215	65	805	870

Table J.5-4
Marine Terminal Travel Characteristics
Minimum Marine/Minimum Rail Alternative

Auto Trips

Hour Beginning	Zone 1 New Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	115	6	121	152	8	160	180	9	189	232	12	244	679	35	714
8:00	67	4	71	89	5	94	105	6	111	136	7	143	397	22	419
9:00	57	6	63	75	8	83	89	10	99	116	13	129	337	37	374
10:00	44	29	73	58	38	96	68	46	114	88	59	147	258	172	430
11:00	46	46	92	61	61	122	73	73	146	94	94	188	274	274	548
12:00	51	51	102	67	67	134	80	80	160	103	103	206	301	301	602
13:00	42	42	84	56	56	112	66	66	132	86	86	172	250	250	500
14:00	18	70	88	23	93	116	28	110	138	36	143	179	105	416	521
15:00	5	104	109	7	138	145	9	163	172	11	211	222	32	616	648
16:00	5	102	107	7	135	142	8	160	168	11	206	217	31	603	634
17:00	9	80	89	12	106	118	14	126	140	18	162	180	53	474	527

Truck Trips

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	87	0	87	114	0	114	136	0	136	176	0	176	513	0	513
8:00	136	145	281	179	191	370	213	227	440	275	293	568	803	856	1,659
9:00	200	245	445	263	323	586	313	384	697	405	496	901	1,181	1,448	2,629
10:00	164	182	346	216	240	456	257	285	542	332	368	700	969	1,075	2,044
11:00	207	185	392	272	244	516	324	290	614	418	375	793	1,221	1,094	2,315
12:00	85	146	231	112	192	304	134	229	363	173	295	468	504	862	1,366
13:00	203	144	347	268	190	458	318	226	544	411	292	703	1,200	852	2,052
14:00	156	179	335	205	236	441	244	281	525	315	363	678	920	1,059	1,979
15:00	111	134	245	147	176	323	175	209	384	226	270	496	659	789	1,448
16:00	30	70	100	39	93	132	46	110	156	60	143	203	175	416	591
17:00	0	15	15	0	19	19	0	23	23	0	30	30	0	87	87

Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	174	0	174	228	0	228	272	0	272	352	0	352	1,026	0	1,026
8:00	272	290	562	358	382	740	426	454	880	550	586	1,136	1,606	1,712	3,318
9:00	400	490	890	526	646	1,172	626	768	1,394	810	992	1,802	2,362	2,896	5,258
10:00	328	364	692	432	480	912	514	570	1,084	664	736	1,400	1,938	2,150	4,088
11:00	414	370	784	544	488	1,032	648	580	1,228	836	750	1,586	2,442	2,188	4,630
12:00	170	292	462	224	384	608	268	458	726	346	590	936	1,008	1,724	2,732
13:00	406	288	694	536	380	916	636	452	1,088	822	584	1,406	2,400	1,704	4,104
14:00	312	358	670	410	472	882	488	562	1,050	630	726	1,356	1,840	2,118	3,958
15:00	222	268	490	294	352	646	350	418	768	452	540	992	1,318	1,578	2,896
16:00	60	140	200	78	186	264	92	220	312	120	286	406	350	832	1,182
17:00	0	30	30	0	38	38	0	46	46	0	60	60	0	174	174

Total Passenger Car Equivalents for Trucks and Autos

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	289	6	295	380	8	388	452	9	461	584	12	596	1,705	35	1,740
8:00	339	294	633	447	387	834	531	460	991	686	593	1,279	2,003	1,734	3,737
9:00	457	496	953	601	654	1,255	715	778	1,493	926	1,005	1,931	2,699	2,933	5,632
10:00	372	393	765	490	518	1,008	582	616	1,198	752	795	1,547	2,196	2,322	4,518
11:00	460	416	876	605	549	1,154	721	653	1,374	930	844	1,774	2,716	2,462	5,178
12:00	221	343	564	291	451	742	348	538	886	449	693	1,142	1,309	2,025	3,334
13:00	448	330	778	592	436	1,028	702	518	1,220	908	670	1,578	2,650	1,954	4,604
14:00	330	428	758	433	565	998	516	672	1,188	666	869	1,535	1,945	2,534	4,479
15:00	227	372	599	301	490	791	359	581	940	463	751	1,214	1,350	2,194	3,544
16:00	65	242	307	85	321	406	100	380	480	131	492	623	381	1,435	1,816
17:00	9	110	119	12	144	156	14	172	186	18	222	240	53	648	701

Table J.5-5
Marine Terminal Travel Characteristics
Maximum Marine/Minimum Rail Alternative

Auto Trips

Hour Beginning	Zone 1 New Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	333	18	351	151	8	159	180	9	189	207	11	218	871	46	917
8:00	195	10	205	88	5	93	105	6	111	121	6	127	509	27	536
9:00	166	18	184	75	8	83	89	10	99	103	11	114	433	47	480
10:00	127	84	211	57	38	95	68	46	114	79	52	131	331	220	551
11:00	134	134	268	61	61	122	73	73	146	84	84	168	352	352	704
12:00	148	148	296	67	67	134	80	80	160	92	92	184	387	387	774
13:00	123	123	246	56	56	112	66	66	132	76	76	152	321	321	642
14:00	51	204	255	23	93	116	28	110	138	32	127	159	134	534	668
15:00	16	303	319	7	137	144	9	163	172	10	188	198	42	791	833
16:00	16	296	312	7	134	141	8	160	168	10	184	194	41	774	815
17:00	26	232	258	12	106	118	14	126	140	16	145	161	68	609	677

Truck Trips

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	259	0	259	118	0	118	140	0	140	161	0	161	678	0	678
8:00	406	432	838	184	196	380	219	233	452	252	269	521	1,061	1,130	2,191
9:00	596	730	1,326	271	332	603	322	394	716	371	454	825	1,560	1,910	3,470
10:00	489	542	1,031	222	246	468	264	293	557	304	337	641	1,279	1,418	2,697
11:00	616	552	1,168	280	251	531	333	298	631	383	343	726	1,612	1,444	3,056
12:00	254	435	689	115	197	312	137	235	372	158	270	428	664	1,137	1,801
13:00	606	430	1,036	275	195	470	327	232	559	377	267	644	1,585	1,124	2,709
14:00	464	535	999	211	243	454	251	289	540	289	333	622	1,215	1,400	2,615
15:00	332	398	730	151	181	332	179	215	394	207	248	455	869	1,042	1,911
16:00	88	210	298	40	95	135	48	113	161	55	131	186	231	549	780
17:00	0	44	44	0	20	20	0	24	24	0	27	27	0	115	115

Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	518	0	518	236	0	236	280	0	280	322	0	322	1,356	0	1,356
8:00	812	864	1,676	368	392	760	438	466	904	504	538	1,042	2,122	2,260	4,382
9:00	1,192	1,460	2,652	542	664	1,206	644	788	1,432	742	908	1,650	3,120	3,820	6,940
10:00	978	1,084	2,062	444	492	936	528	586	1,114	608	674	1,282	2,558	2,836	5,394
11:00	1,232	1,104	2,336	560	502	1,062	666	596	1,262	766	686	1,452	3,224	2,888	6,112
12:00	508	870	1,378	230	394	624	274	470	744	316	540	856	1,328	2,274	3,602
13:00	1,212	860	2,072	550	390	940	654	464	1,118	754	534	1,288	3,170	2,248	5,418
14:00	928	1,070	1,998	422	486	908	502	578	1,080	578	666	1,244	2,430	2,800	5,230
15:00	664	796	1,460	302	362	664	358	430	788	414	496	910	1,738	2,084	3,822
16:00	176	420	596	80	190	270	96	226	322	110	262	372	462	1,098	1,560
17:00	0	88	88	0	40	40	0	48	48	0	54	54	0	230	230

Total Passenger Car Equivalents for Trucks and Autos

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	851	18	869	387	8	395	460	9	469	529	11	540	2,227	46	2,273
8:00	1,007	874	1,881	456	397	853	543	472	1,015	625	544	1,169	2,631	2,287	4,918
9:00	1,358	1,478	2,836	617	672	1,289	733	798	1,531	845	919	1,764	3,553	3,867	7,420
10:00	1,105	1,168	2,273	501	530	1,031	596	632	1,228	687	726	1,413	2,889	3,056	5,945
11:00	1,366	1,238	2,604	621	563	1,184	739	669	1,408	850	770	1,620	3,576	3,240	6,816
12:00	656	1,018	1,674	297	461	758	354	550	904	408	632	1,040	1,715	2,661	4,376
13:00	1,335	983	2,318	606	446	1,052	720	530	1,250	830	610	1,440	3,491	2,569	6,060
14:00	979	1,274	2,253	445	579	1,024	530	688	1,218	610	793	1,403	2,564	3,334	5,898
15:00	680	1,099	1,779	309	499	808	367	593	960	424	684	1,108	1,780	2,875	4,655
16:00	192	716	908	87	324	411	104	386	490	120	446	566	503	1,872	2,375
17:00	26	320	346	12	146	158	14	174	188	16	199	215	68	839	907

Table J.5-6
Marine Terminal Travel Characteristics
Reduced Harbor Fill Alternative

Auto Trips

Hour Beginning	Zone 1 New Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	319	17	336	151	8	159	180	9	189	207	11	218	857	45	902
8:00	187	10	197	88	5	93	105	6	111	121	6	127	501	27	528
9:00	159	18	177	75	8	83	89	10	99	103	11	114	426	47	473
10:00	121	81	202	57	38	95	68	46	114	79	52	131	325	217	542
11:00	129	129	258	61	61	122	73	73	146	84	84	168	347	347	694
12:00	142	142	284	67	67	134	80	80	160	92	92	184	381	381	762
13:00	118	118	236	56	56	112	66	66	132	76	76	152	316	316	632
14:00	49	196	245	23	93	116	28	110	138	32	127	159	132	526	658
15:00	15	290	305	7	137	144	9	163	172	10	188	198	41	778	819
16:00	15	284	299	7	134	141	8	160	168	10	184	194	40	762	802
17:00	25	223	248	12	106	118	14	126	140	16	145	161	67	600	667

Truck Trips

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	248	0	248	117	0	117	140	0	140	161	0	161	666	0	666
8:00	388	413	801	184	196	380	219	233	452	252	268	520	1,043	1,110	2,153
9:00	571	699	1,270	270	331	601	322	394	716	370	453	823	1,533	1,877	3,410
10:00	468	519	987	222	246	468	264	293	557	303	337	640	1,257	1,395	2,652
11:00	589	528	1,117	279	250	529	332	298	630	382	343	725	1,582	1,419	3,001
12:00	243	416	659	115	197	312	137	235	372	158	270	428	653	1,118	1,771
13:00	580	412	992	275	195	470	327	232	559	376	267	643	1,558	1,106	2,664
14:00	444	512	956	210	243	453	250	289	539	288	332	620	1,192	1,376	2,568
15:00	318	381	699	151	181	332	179	215	394	206	247	453	854	1,024	1,878
16:00	84	201	285	40	95	135	47	113	160	55	130	185	226	539	765
17:00	0	42	42	0	20	20	0	24	24	0	27	27	0	113	113

Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	496	0	496	234	0	234	280	0	280	322	0	322	1,332	0	1,332
8:00	776	826	1,602	368	392	760	438	466	904	504	536	1,040	2,086	2,220	4,306
9:00	1,142	1,398	2,540	540	662	1,202	644	788	1,432	740	906	1,646	3,066	3,754	6,820
10:00	936	1,038	1,974	444	492	936	528	586	1,114	606	674	1,280	2,514	2,790	5,304
11:00	1,178	1,056	2,234	558	500	1,058	664	596	1,260	764	686	1,450	3,164	2,838	6,002
12:00	486	832	1,318	230	394	624	274	470	744	316	540	856	1,306	2,236	3,542
13:00	1,160	824	1,984	550	390	940	654	464	1,118	752	534	1,286	3,116	2,212	5,328
14:00	888	1,024	1,912	420	486	906	500	578	1,078	576	664	1,240	2,384	2,752	5,136
15:00	636	762	1,398	302	362	664	358	430	788	412	494	906	1,708	2,048	3,756
16:00	168	402	570	80	190	270	94	226	320	110	260	370	452	1,078	1,530
17:00	0	84	84	0	40	40	0	48	48	0	54	54	0	226	226

Total Passenger Car Equivalents for Trucks and Autos

Hour Beginning	Zone 1 Outer Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
7:00	815	17	832	385	8	393	460	9	469	529	11	540	2,189	45	2,234
8:00	963	836	1,799	456	397	853	543	472	1,015	625	542	1,167	2,587	2,247	4,834
9:00	1,301	1,416	2,717	615	670	1,285	733	798	1,531	843	917	1,760	3,492	3,801	7,293
10:00	1,057	1,119	2,176	501	530	1,031	596	632	1,228	685	726	1,411	2,839	3,007	5,846
11:00	1,307	1,185	2,492	619	561	1,180	737	669	1,406	848	770	1,618	3,511	3,185	6,696
12:00	628	974	1,602	297	461	758	354	550	904	408	632	1,040	1,687	2,617	4,304
13:00	1,278	942	2,220	606	446	1,052	720	530	1,250	828	610	1,438	3,432	2,528	5,960
14:00	937	1,220	2,157	443	579	1,022	528	688	1,216	608	791	1,399	2,516	3,278	5,794
15:00	651	1,052	1,703	309	499	808	367	593	960	422	682	1,104	1,749	2,826	4,575
16:00	183	686	869	87	324	411	102	386	488	120	444	564	492	1,840	2,332
17:00	25	307	332	12	146	158	14	174	188	16	199	215	67	826	893

Table J.5-7
Marine Terminal Travel Characteristics

Auto Traffic

	Zone 1 New Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Existing Conditions															
AM Peak															
Traffic Volume				62	3	65	73	4	77	85	4	89	220	11	231
Splits (In - Out)				95%	5%		95%	5%		96%	4%		95%	5%	
Percent of Marine Traffic						28%			33%			39%			100%
PM Peak															
Traffic Volume				5	96	101	6	114	120	7	131	138	18	341	359
Splits (In - Out)				5%	95%		5%	95%		5%	95%		5%	95%	
Percent of Marine Traffic						28%			33%			38%			100%
No Project Alternative															
AM Peak															
Traffic Volume				88	5	93	105	6	111	121	6	127	314	17	331
Splits (In - Out)				95%	5%		95%	5%		95%	5%		95%	5%	
Percent of Marine Traffic						28%			34%			38%			100%
PM Peak															
Traffic Volume				7	137	144	9	163	172	10	188	198	26	488	514
Splits (In - Out)				5%	95%		5%	95%		5%	95%		5%	95%	
Percent of Marine Traffic						28%			33%			39%			100%
Maximum Marine/Maximum Rail Alternative															
AM Peak															
Traffic Volume	175	9	184	88	5	93	105	6	111	121	6	127	489	26	515
Splits (In - Out)	95%	5%		95%	5%		95%	5%		95%	5%		95%	5%	
Percent of Marine Traffic			36%			18%			22%			25%			100%
PM Peak															
Traffic Volume	14	271	285	7	137	144	9	163	172	10	188	198	40	759	799
Splits (In - Out)	5%	95%		5%	95%		5%	95%		5%	95%		5%	95%	
Percent of Marine Traffic			36%			18%			22%			25%			100%
Minimum Marine/Minimum Rail Alternative															
AM Peak															
Traffic Volume	67	4	71	89	5	94	105	6	111	136	7	143	397	22	419
Splits (In - Out)	94%	6%		95%	5%		95%	5%		95%	5%		95%	5%	
Percent of Marine Traffic			17%			22%			26%			34%			100%
PM Peak															
Traffic Volume	5	104	109	7	138	145	9	163	172	11	211	222	32	616	648
Splits (In - Out)	5%	95%		5%	95%		5%	95%		5%	95%		5%	95%	
Percent of Marine Traffic			17%			22%			27%			34%			100%
Maximum Marine/Minimum Rail Alternative															
AM Peak															
Traffic Volume	195	10	205	88	5	93	105	6	111	121	6	127	509	27	536
Splits (In - Out)	95%	5%		95%	5%		95%	5%		95%	5%		95%	5%	
Percent of Marine Traffic			38%			17%			21%			24%			100%
PM Peak															
Traffic Volume	16	303	319	7	137	144	9	163	172	10	188	198	42	791	833
Splits (In - Out)	5%	95%		5%	95%		5%	95%		5%	95%		5%	95%	
Percent of Marine Traffic			38%			17%			21%			24%			100%
Reduced Harbor Fill Alternative															
AM Peak															
Traffic Volume	187	10	197	88	5	93	105	6	111	121	6	127	501	27	528
Splits (In - Out)	95%	5%		95%	5%		95%	5%		95%	5%		95%	5%	
Percent of Marine Traffic			37%			18%			21%			24%			100%
PM Peak															
Traffic Volume	15	290	305	7	137	144	9	163	172	10	188	198	41	778	819
Splits (In - Out)	5%	95%		5%	95%		5%	95%		5%	95%		5%	95%	
Percent of Marine Traffic			37%			18%			21%			24%			100%

Table J.5-8
Marine Terminal Travel Characteristics

Truck Traffic (In passenger car equivalents: 1 truck = 2 cars)

	Zone 1 New Harbor Terminal			Zone 6 Middle Harbor Terminal			Zone 7 7th Street Terminal			Zone 8 Outer Harbor Terminal			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Existing Conditions															
AM Peak															
Traffic Volume				280	298	578	294	312	606	352	376	728	926	986	1,912
Splits (In - Out)				48%	52%		49%	51%		48%	52%		48%	52%	
Percent of Marine Traffic						30%			32%			38%			100%
PM Peak															
Traffic Volume				230	276	506	240	288	528	288	346	634	758	910	1,668
Splits (In - Out)				45%	55%		45%	55%		45%	55%		45%	55%	
Percent of Marine Traffic						30%			32%			38%			100%
No Project Alternative															
AM Peak															
Traffic Volume				354	376	730	420	448	868	484	514	998	1,258	1,338	2,596
Splits (In - Out)				48%	52%		48%	52%		48%	52%		48%	52%	
Percent of Marine Traffic						28%			33%			38%			100%
PM Peak															
Traffic Volume				290	346	636	344	412	756	396	474	870	1,030	1,232	2,262
Splits (In - Out)				46%	54%		46%	54%		46%	54%		46%	54%	
Percent of Marine Traffic						28%			33%			38%			100%
Maximum Marine/Maximum Rail Alternative															
AM Peak															
Traffic Volume	724	772	1,496	366	390	756	436	464	900	502	536	1,038	2,028	2,162	4,190
Splits (In - Out)	48%	52%		48%	52%		48%	52%		48%	52%		48%	52%	
Percent of Marine Traffic			36%			18%			21%			25%			100%
PM Peak															
Traffic Volume	594	712	1,306	300	360	660	358	428	786	412	494	906	1,664	1,994	3,658
Splits (In - Out)	45%	55%		45%	55%		46%	54%		45%	55%		45%	55%	
Percent of Marine Traffic			36%			18%			21%			25%			100%
Minimum Marine/Minimum Rail Alternative															
AM Peak															
Traffic Volume	272	290	562	358	382	740	426	454	880	550	586	1,136	1,606	1,712	3,318
Splits (In - Out)	48%	52%		48%	52%		48%	52%		48%	52%		48%	52%	
Percent of Marine Traffic			17%			22%			27%			34%			100%
PM Peak															
Traffic Volume	222	268	490	294	352	646	350	418	768	452	540	992	1,318	1,578	2,896
Splits (In - Out)	45%	55%		46%	54%		46%	54%		46%	54%		46%	54%	
Percent of Marine Traffic			17%			22%			27%			34%			100%
Maximum Marine/Minimum Rail Alternative															
AM Peak															
Traffic Volume	812	864	1,676	368	392	760	438	466	904	504	538	1,042	2,122	2,260	4,382
Splits (In - Out)	48%	52%		48%	52%		48%	52%		48%	52%		48%	52%	
Percent of Marine Traffic			38%			17%			21%			24%			100%
PM Peak															
Traffic Volume	664	796	1,460	302	362	664	358	430	788	414	496	910	1,738	2,084	3,822
Splits (In - Out)	45%	55%		45%	55%		45%	55%		45%	55%		45%	55%	
Percent of Marine Traffic			38%			17%			21%			24%			100%
Reduced Harbor Fill Alternative															
AM Peak															
Traffic Volume	776	826	1,602	368	392	760	438	466	904	504	536	1,040	2,086	2,220	4,306
Splits (In - Out)	48%	52%		48%	52%		48%	52%		48%	52%		48%	52%	
Percent of Marine Traffic			37%			18%			21%			24%			100%
PM Peak															
Traffic Volume	636	762	1,398	302	362	664	358	430	788	412	494	906	1,708	2,048	3,756
Splits (In - Out)	45%	55%		45%	55%		45%	55%		45%	55%		45%	55%	
Percent of Marine Traffic			37%			18%			21%			24%			100%

Appendix J.6
Peak Hour Project Trip Generation

Table J.6-1
FISCO/Port Vision 2000 EIS/EIR
AM Peak Hour Truck Trip Generation
(in passenger car equivalents: 1 truck = 2 cars)

Existing Conditions

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1				
2				
3				
4	74%	238	84	322
5	74%	153	54	208
6	22%	129	449	578
7	22%	135	471	606
8	22%	163	565	728
9				
10				
11		36		

No Project Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1				
2				
3				
4	15%	92	536	629
5	15%	50	290	340
6	6%	42	688	730
7	6%	50	818	868
8	6%	57	941	998
9				
10				
11		6		

Maximum Marine/Maximum Rail Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	34%	512	984	1,496
2				
3	62%	1,433	890	2,323
4				
5				
6	34%	259	497	756
7	34%	308	592	900
8	34%	355	683	1,038
9				
10				
11				

Minimum Marine/Minimum Rail Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	17%	95	467	562
2				
3	39%	256	406	662
4	39%	228	361	589
5	39%	77	122	199
6	17%	125	615	740
7	17%	149	731	880
8	17%	192	944	1,136
9				
10				
11				

Maximum Marine/Minimum Rail Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	37%	621	1,055	1,676
2				
3	65%	805	442	1,247
4	65%	817	448	1,266
5				
6	37%	281	479	760
7	37%	335	569	904
8	37%	386	656	1,042
9				
10				
11				

Reduced Harbor Fill Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	36%	576	1,026	1,602
2				
3	64%	1,549	890	2,439
4				
5				
6	36%	273	487	760
7	36%	325	579	904
8	36%	374	666	1,040
9				
10				
11				

Table J.6-2
FISCO/Port Vision 2000 EIS/EIR
PM Peak Hour Truck Trip Generation
(in passenger car equivalents: 1 truck = 2 cars)

Existing Conditions

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1				
2				
3				
4	74%	207	73	281
5	74%	134	47	181
6	22%	113	393	506
7	22%	118	410	528
8	22%	142	492	634
9				
10				
11		32		

No Project Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1				
2				
3				
4	15%	80	467	548
5	15%	43	253	296
6	6%	36	600	636
7	6%	43	713	756
8	6%	50	820	870
9				
10				
11		5		

Maximum Marine/Maximum Rail Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	34%	447	859	1,306
2				
3	62%	1,251	777	2,028
4				
5				
6	34%	226	434	660
7	34%	269	517	786
8	34%	310	596	906
9				
10				
11				

Minimum Marine/Minimum Rail Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	17%	83	407	490
2				
3	39%	223	355	578
4	39%	199	315	514
5	39%	67	106	173
6	17%	109	537	646
7	17%	130	638	768
8	17%	168	824	992
9				
10				
11				

Maximum Marine/Minimum Rail Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	37%	541	919	1,460
2				
3	65%	702	385	1,088
4	65%	713	391	1,104
5				
6	37%	246	418	664
7	37%	292	496	788
8	37%	337	573	910
9				
10				
11				

Reduced Harbor Fill Alternative

Zone	Intermodal		Over-the-	Total
	%	Trips	Road Trips	Trips
1	36%	503	895	1,398
2				
3	64%	1,351	776	2,128
4				
5				
6	36%	239	425	664
7	36%	284	504	788
8	36%	326	580	906
9				
10				
11				

Table J.6-3
FISCO/Port Vision 2000 EIS/EIR
AM Peak Hour Truck Trip Generation (Inbound / Outbound Splits)
(in passenger car equivalents: 1 truck = 2 cars)

Existing Conditions

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1					
2					
3					
4	115	123	41	43	322
5	74	79	26	28	208
6	63	67	217	231	578
7	66	70	228	243	606
8	79	84	274	292	728
9					
10					
11	17	19			36

No Project Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1					
2					
3					
4	45	48	260	276	629
5	24	26	140	149	340
6	20	21	334	355	730
7	24	26	397	422	868
8	28	29	456	485	998
9					
10					
11	3	3			6

Maximum Marine/Maximum Rail Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	248	264	476	508	1,496
2					
3	694	739	431	459	2,323
4					
5					
6	125	133	241	257	756
7	149	159	287	306	900
8	172	183	331	352	1,038
9					
10					
11					

Minimum Marine/Minimum Rail Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	46	49	226	241	562
2					
3	124	132	197	210	662
4	110	117	175	186	589
5	37	40	59	63	199
6	60	64	298	317	740
7	72	77	354	377	880
8	93	99	457	487	1,136
9					
10					
11					

Maximum Marine/Minimum Rail Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	300	320	511	544	1,676
2					
3	390	415	214	228	1,247
4	396	421	217	231	1,266
5					
6	136	145	232	247	760
7	162	173	276	294	904
8	187	199	318	338	1,042
9					
10					
11					

Reduced Harbor Fill Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	279	297	497	529	1,602
2					
3	751	799	431	459	2,439
4					
5					
6	132	141	236	251	760
7	158	168	280	298	904
8	181	193	323	343	1,040
9					
10					
11					

Table J.6-4
FISCO/Port Vision 2000 EIS/EIR
PM Peak Hour Truck Trip Generation (Inbound / Outbound Splits)
(in passenger car equivalents: 1 truck = 2 cars)

Existing Conditions

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1					
2					
3					
4	94	113	33	40	281
5	61	73	22	26	181
6	51	62	179	214	506
7	54	64	186	224	528
8	64	77	224	269	634
9					
10					
11	14	17			32

No Project Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1					
2					
3					
4	37	44	213	255	548
5	20	24	115	138	296
6	17	20	273	327	636
7	20	24	325	388	756
8	23	27	374	447	870
9					
10					
11	2	3			5

Maximum Marine/Maximum Rail Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	203	243	391	468	1,306
2					
3	569	682	353	423	2,028
4					
5					
6	103	123	198	237	660
7	122	147	235	282	786
8	141	169	271	325	906
9					
10					
11					

Minimum Marine/Minimum Rail Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	38	45	185	222	490
2					
3	102	122	161	193	578
4	90	108	144	172	514
5	31	37	48	58	173
6	50	59	244	293	646
7	59	71	290	348	768
8	76	91	375	449	992
9					
10					
11					

Maximum Marine/Minimum Rail Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	246	295	418	501	1,460
2					
3	319	383	175	210	1,088
4	324	389	178	213	1,104
5					
6	112	134	190	228	664
7	133	159	226	271	788
8	153	184	261	312	910
9					
10					
11					

Reduced Harbor Fill Alternative

Zone	Intermodal Trips		Over-the-Road Trips		Total
	Inbound	Outbound	Inbound	Outbound	Trips
1	229	274	407	488	1,398
2					
3	615	737	353	423	2,128
4					
5					
6	109	130	193	232	664
7	129	155	229	275	788
8	148	178	264	316	906
9					
10					
11					

Table J.6-5
FISCO/Port Vision 2000 EIS/EIR
Distribution from Marine Terminals to Rail Terminals
AM Peak Hour

Existing Conditions

Zone	Intermodal	Over-the-Road Trips
1		
2		
3		
4	55.6%	60.8%
5	35.9%	39.2%
6		
7		
8		
9		
10		
11	8.5%	

No Project Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3		
4	62.2%	64.9%
5	33.6%	35.1%
6		
7		
8		
9		
10		
11	4.2%	

Maximum Marine/Maximum Rail Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3	100.0%	100.0%
4		
5		
6		
7		
8		
9		
10		
11		

Minimum Marine/Minimum Rail Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3		
4	45.7%	45.7%
5	40.6%	40.6%
6	13.7%	13.7%
7		
8		
9		
10		
11		

Maximum Marine/Minimum Rail Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3	49.6%	49.6%
4	50.4%	50.4%
5		
6		
7		
8		
9		
10		
11		

Reduced Harbor Fill Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3	100.0%	100.0%
4		
5		
6		
7		
8		
9		
10		
11		

Table J.6-6
FISCO/Port Vision 2000 EIS/EIR
Distribution from Marine Terminals to Rail Terminals
PM Peak Hour

Existing Conditions

Zone	Intermodal	Over-the-Road Trips
1		
2		
3		
4	55.6%	60.8%
5	35.9%	39.2%
6		
7		
8		
9		
10		
11	8.5%	

No Project Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3		
4	62.2%	64.9%
5	33.6%	35.1%
6		
7		
8		
9		
10		
11	4.2%	

Maximum Marine/Maximum Rail Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3	100.0%	100.0%
4		
5		
6		
7		
8		
9		
10		
11		

Minimum Marine/Minimum Rail Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3		
4	45.7%	45.7%
5	40.6%	40.6%
6	13.7%	13.7%
7		
8		
9		
10		
11		

Maximum Marine/Minimum Rail Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3	49.6%	49.6%
4	50.4%	50.4%
5		
6		
7		
8		
9		
10		
11		

Reduced Harbor Fill Alternative

Zone	Intermodal	Over-the-Road Trips
1		
2		
3	100.0%	100.0%
4		
5		
6		
7		
8		
9		
10		
11		

Table J.6-7

FISCO/Port Vision 2000 EIR/EIS

Public Recreation Area

Maximum Marine/Maximum Rail Alternative

Land Use	Amount	Trip Generation Land Use	Source	Amount	Trip Generation Rates				Trips Generated			
					AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
					In	Out	In	Out	In	Out	In	Out
Recreation												
Softball/Baseball	132,000 Sq. Ft.	Developed Regional Park	SANDAG	7.2 Acres	0.48	0.32	0.64	0.96	3	2	5	7
Recreation Area	130,000 Sq. Ft.	(Included Above)										
Nature Study	50,000 Sq. Ft.	(Included Above)										
Beach	120,000 Sq. Ft.	Bay Beach	SANDAG	2.8 Acres			2.64	3.96			7	11
Boat Launch	1 Ramp	(Included Below)										
Marina	116 Berths	Marina	ITE (420)	150 Berths	0.03	0.05	0.11	0.08	4	8	17	11
Roller Blading, etc.		(Included Above)										
Cummunity												
		Recreational Comm Ctr	ITE (495)	11,400 Sq. Ft.	0.67	0.41	0.39	0.99	8	5	4	11
Snack Bar, etc.	3,000 Sq. Ft.	(Included Above)										
Ceremonial Events	4,000 Sq. Ft.	(Included Above)										
Ceremonial Events	4,400 Sq. Ft.	(Included Above)										
Total Trips									15	15	33	40

Table J.6-8

FISCO/Port Vision 2000 EIR/EIS

Public Recreation Area

Minimum Marine/Minimum Rail Alternative

Land Use	Amount	Trip Generation	Source	Amount	Trip Generation Rates				Trips Generated			
		Land Use			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
					In	Out	In	Out	In	Out	In	Out
Recreation												
Softball/Baseball	132,000 Sq. Ft.	Developed Regional Park	SANDAG	4.9 Acres	0.48	0.32	0.64	0.96	2	2	3	5
Recreation Area	80,000 Sq. Ft.	(Included Above)										
Beach	3,600 Sq. Ft.	Bay Beach	SANDAG	0.1 Acres			2.64	3.96			0	0
Cummunity												
Restaurant, etc.	33,600 Sq. Ft.	Recreational Comm Ctr	ITE (495)	33,600 Sq. Ft.	0.67	0.41	0.39	0.99	22	14	13	33
Total Trips									24	16	16	38

Table J.6-9
FISCO/Port Vision 2000 EIR/EIS
Public Recreation Area
Maximum Marine/Minimum Rail Alternative

Land Use	Amount	Trip Generation Land Use	Source	Amount	Trip Generation Rates				Trips Generated			
					AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
					In	Out	In	Out	In	Out	In	Out
Recreation												
Softball/Baseball	140,000 Sq. Ft.	Developed Regional Park	SANDAG	11.7 Acres	0.48	0.32	0.64	0.96	6	4	7	11
Sports Field	175,000 Sq. Ft.	(Included Above)										
Recreation Area	145,000 Sq. Ft.	(Included Above)										
Nature Study	50,000 Sq. Ft.	(Included Above)										
Beach	62,000 Sq. Ft.	Bay Beach	SANDAG	2.9 Acres			2.64	3.96			8	11
Roller Blading, etc.	62,500 Sq. Ft.	(Included Above)										
Cummunity												
Restaurant, etc.	33,600	Recreational Comm Ctr	ITE (495)	37,600 Sq. Ft.	0.67	0.41	0.39	0.99	25	15	15	37
Snack Bar, etc.	4,000 Sq. Ft.	(Included Above)										
Total Trips									31	19	30	59

Table J.6-10
FISCO/Port Vision 2000 EIR/EIS
Public Recreation Area
Reduced Harbor Fill Alternative

Land Use	Amount	Trip Generation Land Use	Source	Amount	Trip Generation Rates AM Peak Hour In	Trip Generation Rates AM Peak Hour Out	Trip Generation Rates PM Peak Hour In	Trip Generation Rates PM Peak Hour Out	Trips Generated AM Peak Hour In	Trips Generated AM Peak Hour Out	Trips Generated PM Peak Hour In	Trips Generated PM Peak Hour Out
Recreation												
Softball/Baseball	170,000 Sq. Ft.	Developed Regional Park	SANDAG	14.6 Acres	0.48	0.32	0.64	0.96	7	5	9	14
Sports Field	75,000 Sq. Ft.	(Included Above)										
Recreation Area	200,000 Sq. Ft.	(Included Above)										
Nature Study	100,000 Sq. Ft.	(Included Above)										
Amphitheater	90,000 Sq. Ft.	(Included Above)										
Beach	537,000 Sq. Ft.	Bay Beach	SANDAG	12.3 Acres			2.64	3.96			33	49
Cummunity												
Restaurant, etc.	33,600	Recreational Comm Ctr	ITE (495)	33,600 Sq. Ft.	0.67	0.41	0.39	0.99	22	14	13	33
Total Trips									29	19	55	96

Appendix J.7
Level of Service Calculations

Table J.7-1

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	FISCO 4 & 5	200.00	Employees	0.28	0.05	56	10	66	1.5
	Zone 1 Subtotal					56	10	66	1.5
2	FISCO 1,2,3	500.00	Employees	0.28	0.05	140	25	165	3.8
	Zone 2 Subtotal					140	25	165	3.8
4	SP Rail Term	130.00	Employees	0.40	0.09	52	12	64	1.5
	Zone 4 Subtotal					52	12	64	1.5
5	UP Rail Term	82.00	Employees	0.40	0.09	33	7	40	0.9
	Zone 5 Subtotal					33	7	40	0.9
6	Middle Harbr	516.00	Employees	0.26	0.05	134	26	160	3.7
	Zone 6 Subtotal					134	26	160	3.7
7	7th St Harbr	613.00	Employees	0.26	0.05	159	31	190	4.4
	Zone 7 Subtotal					159	31	190	4.4
8	Outer Harbor	706.00	Employees	0.26	0.05	184	35	219	5.1
	Zone 8 Subtotal					184	35	219	5.1
16	Middle Harbr	1.00	Trucks Inter	20.00	21.00	20	21	41	0.9
	Zone 16 Subtotal					20	21	41	0.9
17	7th St Harbr	1.00	Trucks Inter	24.00	26.00	24	26	50	1.2
	Zone 17 Subtotal					24	26	50	1.2
18	Outer Harbor	1.00	Trucks Inter	28.00	29.00	28	29	57	1.3
	Zone 18 Subtotal					28	29	57	1.3
24	SP Rail Term	1.00	Truck External	260.00	276.00	260	276	536	12.4
	Zone 24 Subtotal					260	276	536	12.4
25	UP Rail Term	1.00	Truck External	140.00	149.00	140	149	289	6.7
	Zone 25 Subtotal					140	149	289	6.7
26	Middle Harbr	1.00	Truck External	334.00	355.00	334	355	689	15.9
	Zone 26 Subtotal					334	355	689	15.9
27	7th St Harbr	1.00	Truck External	397.00	422.00	397	422	819	18.9
	Zone 27 Subtotal					397	422	819	18.9
28	Outer Harbor	1.00	Truck External	456.00	485.00	456	485	941	21.8

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					456	485	941	21.8
TOTAL						2417	1909	4326	100.0

Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 4	5	11	12	13	14	15	16
1	0.0	0.0	10.0	30.0	7.0	19.0	19.0	15.0
2	0.0	0.0	10.0	30.0	7.0	19.0	19.0	15.0
4	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
5	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
16	62.2	33.6	0.0	4.2	0.0	0.0	0.0	0.0
17	62.2	33.6	0.0	4.2	0.0	0.0	0.0	0.0
18	62.2	33.6	0.0	4.2	0.0	0.0	0.0	0.0
24	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
25	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Turning Movement Report
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime/Burma													
Base	5	78	0	0	287	0	0	0	5	0	0	0	375
Added	0	262	0	0	338	212	144	0	0	0	0	0	956
Total	5	340	0	0	625	212	144	0	5	0	0	0	1331
#4 Maritime/14th													
Base	0	91	39	103	261	0	0	0	0	22	0	87	603
Added	319	147	0	0	202	136	115	0	290	0	0	0	1209
Total	319	238	39	103	463	136	115	0	290	22	0	87	1812
#5 Maritime/7th Ext.													
Base	159	0	0	0	0	334	69	0	37	0	0	0	599
Added	25	466	0	0	488	4	1	0	5	0	0	0	988
Total	184	466	0	0	488	338	70	0	42	0	0	0	1587
#6 7th/7th Ext.													
Base	15	0	0	0	0	0	0	0	0	26	0	54	95
Added	23	118	57	267	137	88	55	399	25	61	469	318	2017
Total	38	118	57	267	137	88	55	399	25	87	469	372	2112
#7 Middle Harbor/Gate 2													
Base	53	0	45	0	0	0	0	0	39	208	338	0	683
Added	2	0	28	0	0	0	0	207	10	157	217	0	621
PassBy	176	0	264	0	0	0	0	0	117	176	0	0	733
Total	231	0	337	0	0	0	0	207	166	541	555	0	2037
#8 Adeline St./ 3rd St.													
Base	8	0	31	26	0	26	8	6	29	50	59	56	299
Added	0	707	0	0	950	0	0	0	0	0	0	0	1657
Total	8	707	31	26	950	26	8	6	29	50	59	56	1956
#12 Maritime/W.Grand/I-880 Ramps													
Base	0	33	0	16	28	47	48	394	438	0	300	9	1313
Added	271	0	134	0	0	0	0	0	403	147	0	0	956
Total	271	33	134	16	28	47	48	394	841	147	300	9	2269
#13 Adeline/5th/I-880 SB Ramps													
Base	0	0	0	72	109	165	256	51	0	0	169	364	1186
Added	153	117	437	0	177	0	0	0	227	546	0	0	1657
Total	153	117	437	72	286	165	256	51	227	546	169	364	2843
#14 Union/5th/I-880 NB Ramps													
Base	0	175	45	0	154	31	24	43	13	205	31	115	836
Added	0	0	227	0	0	0	0	0	0	153	0	0	380
Total	0	175	272	0	154	31	24	43	13	358	31	115	1216

Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#15 7th/I-880 NB Ramp/Frontage Rd.													
Base	0	548	21	17	0	94	0	16	0	0	62	1	759
Added	564	0	0	0	0	275	227	2	0	0	8	0	1076
Total	564	548	21	17	0	369	227	18	0	0	70	1	1835
#16 7th/I-880 SB Ramp													
Base	0	0	0	0	0	0	0	0	0	65	0	0	65
Added	0	0	0	0	0	0	0	229	495	0	847	0	1571
Total	0	0	0	0	0	0	0	229	495	65	847	0	1636
#17 14th/I-880 Frontage Rd.													
Base	0	0	89	30	0	0	0	0	0	140	0	6	265
Added	0	227	0	0	275	0	0	0	0	0	0	0	502
Total	0	227	89	30	275	0	0	0	0	140	0	6	767
#18 W.Grand/I-880 Frontage Rd.													
Base	9	0	0	678	48	6	65	234	12	0	152	449	1653
Added	0	151	76	0	185	0	0	134	0	90	147	0	784
Total	9	151	76	678	233	6	65	368	12	90	299	449	2437
#138													
Base	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
Added	0	156	0	0	173	26	24	0	0	0	0	0	379
Total	0	0	0	0	0	-0	0	0	0	0	0	0	-0
#158													
Base	0	-180	-129	0	0	0	0	0	0	0	0	0	-309
Added	0	180	129	0	0	0	0	0	0	0	0	0	309
Total	0	-0	0	0	0	0	0	0	0	0	0	0	0
#159													
Base	-180	0	0	0	0	0	0	0	0	0	-178	0	-358
Added	180	0	0	0	0	0	0	0	0	0	178	0	358
Total	-0	0	0	0	0	0	0	0	0	0	0	0	-0
#160													
Base	0	0	0	0	0	0	0	0	0	-178	-180	0	-358
Added	0	0	0	0	0	0	0	0	0	178	180	0	358
Total	0	0	0	0	0	0	0	0	0	0	-0	0	-0
#161													
Base	0	0	0	0	-178	0	0	0	-286	0	0	0	-464
Added	0	0	0	0	178	0	0	0	286	0	0	0	464
Total	0	0	0	0	0	0	0	0	-0	0	0	0	-0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#165													
Base	0	0	0	0	-227	0	0	0	-495	0	0	0	-722
Added	0	0	0	0	227	0	0	0	495	0	0	0	722
Total	0	0	0	0	-0	0	0	0	-0	0	0	0	-0
#170													
Base	0	-153	-564	0	0	0	0	0	0	0	0	0	-717
Added	0	153	564	0	0	0	0	0	0	0	0	0	717
Total	0	-0	-0	0	0	0	0	0	0	0	0	0	-0
#177													
Base	0	0	0	0	-351	0	0	-129	0	0	0	0	-480
Added	0	0	0	0	351	0	0	129	0	0	0	0	481
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#178													
Base	0	-266	0	0	0	0	-104	-25	0	0	0	0	-395
Added	0	266	0	0	0	0	104	25	0	0	0	0	395
Total	0	-0	0	0	0	0	0	0	0	0	0	0	0
#182													
Base	0	-370	0	0	0	-475	0	0	0	0	0	0	-845
Added	0	370	0	0	0	475	0	0	0	0	0	0	845
Total	0	-0	0	0	0	-0	0	0	0	0	0	0	-0
#201													
Base	0	0	0	0	0	0	0	-932	0	0	0	0	-932
Added	0	0	0	0	0	0	0	932	0	0	0	0	932
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#204													
Base	0	0	0	-352	-580	0	0	0	0	0	0	0	-932
Added	0	0	0	352	580	0	0	0	0	0	0	0	932
Total	0	0	0	0	-0	0	0	0	0	0	0	0	0
#207													
Base	0	-714	0	0	0	0	0	0	0	0	0	-396	-1110
Added	0	714	0	0	0	0	0	0	0	0	0	396	1110
Total	0	-0	0	0	0	0	0	0	0	0	0	0	-0
#214													
Base	0	0	0	0	0	0	0	0	0	-546	-564	0	-1110
Added	0	0	0	0	0	0	0	0	0	546	564	0	1110
Total	0	0	0	0	0	0	0	0	0	-0	-0	0	-0

Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#217													
Base	0	0	0	0	-45	0	0	-25	0	0	0	0	-70
Added	0	0	0	0	45	0	0	25	0	0	0	0	71
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#218													
Base	0	-21	0	0	0	0	-21	-4	0	0	0	0	-46
Added	0	21	0	0	0	0	21	4	0	0	0	0	47
Total	0	0	0	0	0	0	0	-0	0	0	0	0	1
#219													
Base	0	-43	0	0	0	0	0	0	0	0	-20	0	-63
Added	0	43	0	0	0	0	0	0	0	0	20	0	63
Total	0	-0	0	0	0	0	0	0	0	0	0	0	0
#220													
Base	0	0	0	0	-45	-34	0	0	0	0	-20	0	-99
Added	0	0	0	0	45	34	0	0	0	0	20	0	100
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#225													
Base	0	0	0	0	0	0	0	0	0	0	-396	-20	-416
Added	0	0	0	0	0	0	0	0	0	0	396	20	416
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#226													
Base	0	0	0	-4	0	0	0	-352	0	0	0	0	-356
Added	0	0	0	4	0	0	0	352	0	0	0	0	356
Total	0	0	0	-0	0	0	0	0	0	0	0	0	0
#244													
Base	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692
Added	0	0	0	0	0	288	312	47	0	0	45	0	692
Total	0	0	0	0	0	0	0	0	0	0	-0	0	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Link Volume Report
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime/Burma													
Base	83	292	375	287	78	365	5	5	10	0	0	0	750
Added	262	338	600	551	406	956	144	212	356	0	0	0	1912
Total	345	630	975	838	484	1321	149	217	366	0	0	0	2662
#4 Maritime/14th													
Base	130	283	413	364	178	542	0	0	0	109	142	251	1206
Added	466	492	958	338	262	600	405	456	861	0	0	0	2419
Total	596	775	1371	702	440	1142	405	456	861	109	142	251	3625
#5 Maritime/7th Ext.													
Base	159	37	196	334	69	403	106	493	599	0	0	0	1198
Added	491	493	983	492	466	958	5	29	34	0	0	0	1976
Total	650	530	1179	826	535	1361	111	522	633	0	0	0	3174
#6 7th/7th Ext.													
Base	15	26	41	0	54	54	0	15	15	80	0	80	190
Added	198	223	421	493	491	983	479	580	1059	847	723	1571	4034
Total	213	249	462	493	545	1037	479	595	1074	927	723	1651	4224
#7 Middle Harbor/Gate 2													
Base	98	247	345	0	0	0	39	391	430	546	45	591	1366
Added	30	167	197	0	0	0	217	219	436	374	235	610	1242
Total	128	414	542	0	0	0	256	610	866	920	280	1201	2608
#8 Adeline St./ 3rd St.													
Base	39	79	118	52	64	116	43	93	136	165	63	228	598
Added	707	950	1657	950	707	1657	0	0	0	0	0	0	3315
Total	746	1029	1775	1002	771	1773	43	93	136	165	63	228	3913
#12 Maritime/W.Grand/I-880 Ramps													
Base	33	466	499	91	90	181	880	347	1227	309	410	719	2626
Added	406	551	956	0	0	0	403	271	674	147	134	282	1912
Total	439	1017	1455	91	90	181	1283	618	1901	456	544	1001	4538
#13 Adeline/5th/I-880 SB Ramps													
Base	0	109	109	346	620	966	307	334	641	533	123	656	2372
Added	707	950	1657	177	117	295	227	153	380	546	437	983	3315
Total	707	1059	1766	523	737	1261	534	487	1021	1079	560	1639	5687
#14 Union/5th/I-880 NB Ramps													
Base	220	372	592	185	314	499	80	62	142	351	88	439	1672
Added	227	153	380	0	0	0	0	0	0	153	227	380	759
Total	447	525	972	185	314	499	80	62	142	504	315	819	2431

Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#15 7th/I-880 NB Ramp/Frontage Rd.													
Base	569	0	569	111	549	660	16	156	172	63	54	117	1518
Added	564	0	564	275	227	502	229	847	1076	8	2	10	2152
Total	1133	0	1133	386	776	1162	245	1003	1248	71	56	127	3670
#16 7th/I-880 SB Ramp													
Base	0	65	65	0	0	0	0	0	0	65	0	65	130
Added	0	495	495	0	0	0	723	847	1571	847	229	1076	3141
Total	0	560	560	0	0	0	723	847	1571	912	229	1141	3271
#17 14th/I-880 Frontage Rd.													
Base	89	140	229	30	6	36	0	0	0	146	119	265	530
Added	227	275	502	275	227	502	0	0	0	0	0	0	1004
Total	316	415	731	305	233	538	0	0	0	146	119	265	1534
#18 W.Grand/I-880 Frontage Rd.													
Base	9	60	69	732	514	1246	311	167	478	601	912	1513	3306
Added	227	275	502	185	151	336	134	147	282	237	210	448	1567
Total	236	335	571	917	665	1582	445	314	760	838	1122	1961	4873
#138													
Base	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
Added	156	173	329	199	180	379	24	26	50	0	0	0	757
Total	0	0	0	-0	0	-0	0	-0	-0	0	0	0	-1
#158													
Base	-309	0	-309	0	-180	-180	0	0	0	0	-129	-129	-618
Added	309	0	309	0	180	180	0	0	0	0	129	129	619
Total	0	0	0	0	-0	-0	0	0	0	0	0	0	1
#159													
Base	-180	0	-180	0	0	0	0	-358	-358	-178	0	-178	-716
Added	180	0	180	0	0	0	0	358	358	178	0	178	716
Total	-0	0	-0	0	0	0	0	-0	-0	0	0	0	-0
#160													
Base	0	-178	-178	0	0	0	0	-180	-180	-358	0	-358	-716
Added	0	178	178	0	0	0	0	180	180	358	0	358	716
Total	0	0	0	0	0	0	0	-0	-0	-0	0	-0	-0
#161													
Base	0	-464	-464	-178	0	-178	-286	0	-286	0	0	0	-928
Added	0	464	464	178	0	178	286	0	286	0	0	0	928
Total	0	-0	-0	0	0	0	-0	0	-0	0	0	0	-0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#165													
Base	0	-722	-722	-227	0	-227	-495	0	-495	0	0	0	-1444
Added	0	722	722	227	0	227	495	0	495	0	0	0	1444
Total	0	-0	-0	-0	0	-0	-0	0	-0	0	0	0	-0
#170													
Base	-717	0	-717	0	-153	-153	0	0	0	0	-564	-564	-1434
Added	717	0	717	0	153	153	0	0	0	0	564	564	1433
Total	-0	0	-0	0	-0	-0	0	0	0	0	-0	-0	-1
#177													
Base	0	-351	-351	-351	0	-351	-129	0	-129	0	-129	-129	-960
Added	0	351	351	351	0	351	129	0	129	0	129	129	961
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#178													
Base	-266	0	-266	0	-370	-370	-129	0	-129	0	-25	-25	-790
Added	266	0	266	0	370	370	129	0	129	0	25	25	791
Total	-0	0	-0	0	-0	-0	0	0	0	0	0	0	1
#182													
Base	-370	0	-370	-475	-370	-845	0	-475	-475	0	0	0	-1690
Added	370	0	370	475	370	845	0	475	475	0	0	0	1689
Total	-0	0	-0	-0	-0	-0	0	-0	-0	0	0	0	-1
#201													
Base	0	0	0	0	0	0	-932	0	-932	0	-932	-932	-1864
Added	0	0	0	0	0	0	932	0	932	0	932	932	1864
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#204													
Base	0	-580	-580	-932	0	-932	0	0	0	0	-352	-352	-1864
Added	0	580	580	932	0	932	0	0	0	0	352	352	1864
Total	0	-0	-0	0	0	0	0	0	0	0	0	0	0
#207													
Base	-714	0	-714	0	-1110	-1110	0	0	0	-396	0	-396	-222
Added	714	0	714	0	1110	1110	0	0	0	396	0	396	2220
Total	-0	0	-0	0	-0	-0	0	0	0	0	0	0	-0
#214													
Base	0	-546	-546	0	0	0	0	-564	-564	-1110	0	-1110	-2220
Added	0	546	546	0	0	0	0	564	564	1110	0	1110	2220
Total	0	-0	-0	0	0	0	0	-0	-0	-0	0	-0	-0

Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#217													
Base	0	-45	-45	-45	0	-45	-25	0	-25	0	-25	-25	-140
Added	0	45	45	45	0	45	25	0	25	0	25	25	141
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#218													
Base	-21	0	-21	0	-42	-42	-25	0	-25	0	-4	-4	-92
Added	21	0	21	0	43	43	25	0	25	0	4	4	93
Total	0	0	0	0	1	1	0	0	0	0	-0	-0	1
#219													
Base	-43	0	-43	0	-43	-43	0	-20	-20	-20	0	-20	-126
Added	43	0	43	0	43	43	0	20	20	20	0	20	126
Total	-0	0	-0	0	-0	-0	0	0	0	0	0	0	0
#220													
Base	0	-45	-45	-79	0	-79	0	-54	-54	-20	0	-20	-198
Added	0	45	45	79	0	79	0	54	54	20	0	20	199
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#225													
Base	0	0	0	0	-20	-20	0	-396	-396	-416	0	-416	-832
Added	0	0	0	0	20	20	0	396	396	416	0	416	833
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#226													
Base	0	0	0	-4	0	-4	-352	0	-352	0	-356	-356	-712
Added	0	0	0	4	0	4	352	0	352	0	356	356	713
Total	0	0	0	-0	0	-0	0	0	0	0	0	0	1
#244													
Base	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384
Added	0	0	0	288	312	600	359	333	692	45	47	92	1384
Total	0	0	0	0	0	0	0	-0	0	-0	0	0	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 3 Maritime/Burma	B	6.3	0.089	B	8.9	0.265	+ 2.597 D/V
# 4 Maritime/14th	C	15.0	0.161	C	19.0	0.707	+ 3.939 D/V
# 5 Maritime/7th Ext.	B	12.8	0.137	B	7.6	0.417	-5.232 D/V
# 6 7th/7th Ext.	B	12.3	0.009	C	17.5	0.390	+ 5.244 D/V
# 7 Middle Harbor/Gate 2	B	6.6	0.167	B	14.4	0.619	+ 7.816 D/V
# 8 Adeline St./ 3rd St.	B	8.7	0.064	E	46.9	0.615	+38.229 D/V
# 12 Maritime/W.Grand/I-880 Ramps	B	12.0	0.242	C	17.6	0.528	+ 5.690 D/V
# 13 Adeline/5th/I-880 SB Ramps	C	18.3	0.236	C	21.4	0.752	+ 3.099 D/V
# 14 Union/5th/I-880 NB Ramps	C	16.4	0.104	C	17.3	0.151	+ 0.940 D/V
# 15 7th/I-880 NB Ramp/Frontage Rd.	B	10.9	0.206	C	23.3	0.509	+12.387 D/V
# 16 7th/I-880 SB Ramp	A	0.1	0.020	A	1.6	0.342	+ 1.472 D/V
# 17 14th/I-880 Frontage Rd.	A	2.8	0.000	C	2.5	0.000	+ 0.000 V/C
# 18 W.Grand/I-880 Frontage Rd.	C	19.9	0.237	C	20.6	0.434	+ 0.733 D/V

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Table J.7-1 (Continued)

```
NOBLD-AM.CMD            Tue Nov 5, 1996 13:08:31            Page 6-1
--------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                       No Project Alternative
                            AM Peak Hour
--------------------------------------------------------------------------
                  Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
**************************************************************************
Intersection #3 Maritime/Burma
**************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.265
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      8.9
Optimal Cycle:       58              Level Of Service:                 B
**************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-------------|----------------||----------------||----------------||----------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20   20    10   20   20    10   20   20     0    0    0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   0  0  0  0  0
-------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       5   78    0     0  287    0     0    0    5     0    0    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    5   78    0     0  287    0     0    0    5     0    0    0
Added Vol:      0  262    0     0  338  212   144    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    5  340    0     0  625  212   144    0    5     0    0    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     5  340    0     0  625  212   144    0    5     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    5  340    0     0  625  212   144    0    5     0    0    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.05 1.05  1.00 1.05 1.05  1.00 1.00 1.00  1.00 1.00 1.00
Final Vol.:     5  357    0     0  656  223   144    0    5     0    0    0
-------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 1.00 1.00  1.00 0.96 0.96  0.95 1.00 0.85  1.00 1.00 1.00
Lanes:       1.00 2.00 0.00  1.00 1.49 0.51  1.00 0.00 1.00  0.00 0.00 0.00
Final Sat.:  1805 3800    0  1900 2723  925  1805    0 1615     0    0    0
-------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.09 0.00  0.00 0.24 0.24  0.08 0.00 0.00  0.00 0.00 0.00
Crit Moves:  ****                 ****            ****
Green/Cycle: 0.10 0.48 0.00  0.00 0.62 0.62  0.20 0.00 0.20  0.00 0.00 0.00
Volume/Cap:  0.03 0.20 0.00  0.00 0.39 0.39  0.40 0.00 0.02  0.00 0.00 0.00
-------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
Delay/Veh:   26.2  9.6  0.0   0.0  6.2  6.2  22.9  0.0 20.7   0.0  0.0  0.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  26.2  9.6  0.0   0.0  6.2  6.2  22.9  0.0 20.7   0.0  0.0  0.0
Queue:          0    6    0     0    9    3     4    0    0     0    0    0
**************************************************************************

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NOBLD-AM.CMD            Tue Nov 5, 1996 13:08:31            Page 7-1
--------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                       No Project Alternative
                            AM Peak Hour
--------------------------------------------------------------------------
                  Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
**************************************************************************
Intersection #4 Maritime/14th
**************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.707
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):     19.0
Optimal Cycle:       58              Level Of Service:                 C
**************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-------------|----------------||----------------||----------------||----------------|
Control:        Protected        Protected        Permitted        Permitted
Rights:          Include          Include            Ovl            Include
Min. Green:    10   20   20    10   20   20    10   20   20    10   20   20
Lanes:        1  0  1  1  0   1  0  1  1  0   0  0  1! 0  0   1  0  0  1  0
-------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0   91   39   103  261    0     0    0    0    22    0   87
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0   91   39   103  261    0     0    0    0    22    0   87
Added Vol:    319  147    0     0  202  136   115    0  290     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  319  238   39   103  463  136   115    0  290    22    0   87
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   319  238   39   103  463  136   115    0  290    22    0   87
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  319  238   39   103  463  136   115    0  290    22    0   87
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.05 1.05  1.00 1.05 1.05  1.00 1.00 1.00  1.00 1.00 1.00
Final Vol.:   319  250   41   103  486  143   115    0  290    22    0   87
-------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.98 0.98  0.95 0.97 0.97  0.70 1.00 0.70  0.62 1.00 0.85
Lanes:       1.00 1.72 0.28  1.00 1.55 0.45  0.28 0.00 0.72  1.00 0.00 1.00
Final Sat.:  1805 3199  525  1805 2848  838   380    0  958  1178    0 1615
-------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.08 0.08  0.06 0.17 0.17  0.30 0.00 0.30  0.02 0.00 0.05
Crit Moves:  ****                 ****       ****
Green/Cycle: 0.25 0.33 0.33  0.16 0.24 0.24  0.43 0.00 0.68  0.43 0.00 0.43
Volume/Cap:  0.71 0.24 0.24  0.35 0.71 0.71  0.71 0.00 0.45  0.04 0.00 0.13
-------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
Delay/Veh:   25.5 15.9 15.9  24.2 24.2 24.2  17.9  0.0  5.0  10.8  0.0 11.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  25.5 15.9 15.9  24.2 24.2 24.2  17.9  0.0  5.0  10.8  0.0 11.2
Queue:          9    5    1     3   13    4     3    0    4     0    0    1
**************************************************************************

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```

Table J.7-1 (Continued)

```
NOBLD-AM.CMD          Tue Nov 5, 1996 13:08:31              Page 8-1
-------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                         No Project Alternative
                              AM Peak Hour
-------------------------------------------------------------------------
                     Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*************************************************************************
Intersection #5 Maritime/7th Ext.
*************************************************************************
Cycle (sec):        100           Critical Vol./Cap. (X):        0.417
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):    7.6
Optimal Cycle:       48           Level Of Service:                  B
*************************************************************************
Approach:      North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Protected       Protected       Protected
Rights:          Include           Ovl             Ovl           Include
Min. Green:   10    20    20    0    20    20   10     0    20    0     0     0
Lanes:         1  0  1  1  0   0  0  1  1  0   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     159     0     0     0     0   334    69     0    37     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  159     0     0     0     0   334    69     0    37     0     0     0
Added Vol:     25   466     0     0   488     4     1     0     5     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  184   466     0     0   488   338    70     0    42     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   184   466     0     0   488   338    70     0    42     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  184   466     0     0   488   338    70     0    42     0     0     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.05  1.05  1.00  1.05  1.05  1.00  1.00  1.00  1.00  1.00  1.00
Final Vol.:   184   489     0     0   513   355    70     0    42     0     0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.95  1.00  1.00  1.00  0.94  0.94  0.95  1.00  0.85  1.00  1.00  1.00
Lanes:       1.00  2.00  0.00  0.00  1.18  0.82  1.00  0.00  1.00  0.00  0.00  0.00
Final Sat.:  1805  3800     0     0  2111  1461  1805     0  1615     0     0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.13  0.00  0.00  0.24  0.24  0.04  0.00  0.03  0.00  0.00  0.00
Crit Moves:  ****                    ****        ****
Green/Cycle: 0.24  0.82  0.00  0.00  0.58  0.68  0.10  0.00  0.34  0.00  0.00  0.00
Volume/Cap:  0.42  0.16  0.00  0.00  0.42  0.36  0.39  0.00  0.08  0.00  0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   21.0   1.2   0.0   0.0   7.7   4.5  27.9   0.0  14.3   0.0   0.0   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  21.0   1.2   0.0   0.0   7.7   4.5  27.9   0.0  14.3   0.0   0.0   0.0
Queue:          4     3     0     0     8     4     2     0     1     0     0     0
*************************************************************************

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NOBLD-AM.CMD          Tue Nov 5, 1996 13:08:31              Page 9-1
-------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                         No Project Alternative
                              AM Peak Hour
-------------------------------------------------------------------------
                     Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*************************************************************************
Intersection #6 7th/7th Ext.
*************************************************************************
Cycle (sec):        100           Critical Vol./Cap. (X):        0.390
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):   17.5
Optimal Cycle:       68           Level Of Service:                  C
*************************************************************************
Approach:      North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Protected       Protected       Protected
Rights:          Include         Include         Include           Ovl
Min. Green:   10    20    20   10    20    20   10    20    20    0    20    20
Lanes:         1  0  1  1  0   1  0  1  1  0   1  0  2  1  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      15     0     0     0     0     0     0     0     0    26     0    54
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   15     0     0     0     0     0     0     0     0    26     0    54
Added Vol:     23   118    57   267   137    88    55   399    25    61   469   318
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   38   118    57   267   137    88    55   399    25    87   469   372
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    38   118    57   267   137    88    55   399    25    87   469   372
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   38   118    57   267   137    88    55   399    25    87   469   372
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.05  1.05  1.00  1.05  1.05  1.00  1.10  1.10  1.00  1.05  1.00
Final Vol.:    38   124    60   267   144    93    55   439    27    87   492   372
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.95  0.95  0.95  0.95  0.94  0.94  0.95  0.99  0.99  0.95  1.00  0.85
Lanes:       1.00  1.35  0.65  1.00  1.22  0.78  1.00  2.83  0.17  1.00  2.00  1.00
Final Sat.:  1805  2433  1177  1805  2170  1402  1805  5316   327  1805  3800  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02  0.05  0.05  0.15  0.07  0.07  0.03  0.08  0.08  0.05  0.13  0.23
Crit Moves:        ****        ****              ****                    ****
Green/Cycle: 0.18  0.20  0.20  0.33  0.35  0.35  0.10  0.20  0.20  0.19  0.29  0.62
Volume/Cap:  0.12  0.25  0.25  0.45  0.19  0.19  0.30  0.41  0.41  0.25  0.45  0.37
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   22.4  21.8  21.8  17.4  14.5  14.5  27.3  22.7  22.7  22.4  18.9   6.2
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  22.4  21.8  21.8  17.4  14.5  14.5  27.3  22.7  22.7  22.4  18.9   6.2
Queue:          1     3     1     6     3     2     1    11     1     2    11     5
*************************************************************************

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Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor/Gate 2

Cycle (sec):	100	Critical Vol./Cap. (X):	0.619
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	14.4
Optimal Cycle:	60	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0	0 1	0 0	0	0 0	0 0	1	1 0	1 0	2	0 0
Volume Module:												
Base Vol:	53	0	45	0	0	0	0	0	39	208	338	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	0	45	0	0	0	0	0	39	208	338	0
Added Vol:	2	0	28	0	0	0	0	207	10	157	217	0
PasserByVol:	176	0	264	0	0	0	0	0	117	176	0	0
Initial Fut:	231	0	337	0	0	0	0	207	166	541	555	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	231	0	337	0	0	0	0	207	166	541	555	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	231	0	337	0	0	0	0	207	166	541	555	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
Final Vol.:	231	0	337	0	0	0	0	218	174	541	583	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.11	0.89	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	1965	1569	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.21	0.00	0.00	0.00	0.00	0.11	0.11	0.30	0.15	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.20	0.20	0.47	0.67	0.00
Volume/Cap:	0.39	0.00	0.64	0.00	0.00	0.00	0.00	0.55	0.55	0.64	0.23	0.00
Level Of Service Module:												
Delay/Veh:	16.9	0.0	20.2	0.0	0.0	0.0	0.0	24.0	24.0	14.0	4.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.9	0.0	20.2	0.0	0.0	0.0	0.0	24.0	24.0	14.0	4.1	0.0
Queue:	5	0	8	0	0	0	0	6	5	12	6	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.615
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	46.9
Optimal Cycle:	92	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	707	0	0	950	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	707	31	26	950	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	707	31	26	950	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	707	31	26	950	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.05
Final Vol.:	8	743	33	27	998	27	8	6	29	53	62	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.85	0.94	0.94	0.94
Lanes:	0.02	1.90	0.08	0.05	1.90	0.05	0.57	0.43	1.00	0.61	0.71	0.68
Final Sat.:	38	3565	158	98	3605	98	1053	790	1615	1089	1273	1212
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.28	0.28	0.28	0.01	0.01	0.02	0.05	0.05	0.05
Crit Moves:			****	****				****			****	
Green/Cycle:	0.21	0.21	0.21	0.27	0.27	0.27	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.01	1.01	1.01	1.01	1.01	1.01	0.04	0.04	0.09	0.24	0.24	0.24
Level Of Service Module:												
Delay/Veh:	53.2	53.2	53.2	47.5	47.5	47.5	20.8	20.8	21.1	21.8	21.8	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	53.2	53.2	47.5	47.5	47.5	20.8	20.8	21.1	21.8	21.8	21.8
Queue:	1	28	2	2	37	2	0	0	1	1	1	1

Table J.7-1 (Continued)

```
NOBLD-AM.CMD            Tue Nov 5, 1996 13:08:31              Page 12-1
------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                        No Project Alternative
                             AM Peak Hour
------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #12 Maritime/W.Grand/I-880 Ramps
************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):     0.528
Loss Time (sec):       10 (Y+R =  4 sec) Average Delay (sec/veh):   17.6
Optimal Cycle:         70              Level Of Service:               C
************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Protected       Protected       Protected
Rights:          Include         Include         Include         Include
Min. Green:   10   20    20   10   20    20   10   20    20   10   20    20
Lanes:         2  0  0  1  0   1  0  0  1  0   1  0  1  1  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   33     0   16   28    47   48  394   438    0  300     9
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0   33     0   16   28    47   48  394   438    0  300     9
Added Vol:    271    0   134    0    0     0    0    0   403  147    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  271   33   134   16   28    47   48  394   841  147  300     9
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   271   33   134   16   28    47   48  394   841  147  300     9
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  271   33   134   16   28    47   48  394   841  147  300     9
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.03 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.05 1.00 1.05  1.05
Final Vol.:   279   33   134   16   28    47   48  394   883  147  315     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.88  0.88 0.95 0.91  0.91 0.95 1.00  0.85 0.95 1.00  1.00
Lanes:       2.00 0.20  0.80 1.00 0.37  0.63 1.00 1.00  2.00 1.00 1.94  0.06
Final Sat.:  3610  330  1342 1805  645  1084 1805 1900  3230 1805 3694   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.10  0.10 0.01 0.04  0.04 0.03 0.21  0.27 0.08 0.09  0.09
Crit Moves:  ****                **                     ****  ****
Green/Cycle: 0.13 0.22  0.22 0.11 0.20  0.20 0.19 0.44  0.44 0.13 0.38  0.38
Volume/Cap:  0.62 0.46  0.46 0.08 0.22  0.22 0.14 0.47  0.62 0.62 0.22  0.22
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   28.6 22.7  22.7 25.9 21.7  21.7 21.7 12.7  14.2 29.8 13.4  13.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  28.6 22.7  22.7 25.9 21.7  21.7 21.7 12.7  14.2 29.8 13.4  13.4
Queue:          8    1     3    0    1     1    1    8    19    4    6     0
************************************************************************
```



```
NOBLD-AM.CMD            Tue Nov 5, 1996 13:08:31              Page 13-1
------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                        No Project Alternative
                             AM Peak Hour
------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #13 Adeline/5th/I-880 SB Ramps
************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):     0.752
Loss Time (sec):       12 (Y+R =  4 sec) Average Delay (sec/veh):   21.4
Optimal Cycle:         82              Level Of Service:               C
************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Protected      Split Phase     Split Phase
Rights:            Ovl           Include         Include         Include
Min. Green:   10   20    20   10   20    20   10   10    20   10   20    20
Lanes:         1  0  1  1  0   1  0  1  1  0   1  1  0  1  0   1  0  0  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   72  109   165  256   51     0    0  169   364
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0   72  109   165  256   51     0    0  169   364
Added Vol:    153  117   437    0  177     0    0    0   227  546    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  153  117   437   72  286   165  256   51   227  546  169   364
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.50
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   153  117   437   72  286   165  256   51   227  546  169   182
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  153  117   437   72  286   165  256   51   227  546  169   182
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.05  1.05 1.10 1.10  1.10 1.00 1.05  1.05
Final Vol.:   153  117   437   72  301   173  282   56   250  546  177   191
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 1.00  0.85 0.95 0.95  0.95 0.92 0.92  0.92 0.95 0.92  0.92
Lanes:       1.00 1.00  1.00 1.00 1.27  0.73 1.67 0.33  1.00 1.00 0.96  1.04
Final Sat.:  1805 1900  1615 1805 2292  1318 2921  580  1750 1805 1682  1815
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.06  0.27 0.04 0.13  0.13 0.10 0.10  0.14 0.30 0.11  0.11
Crit Moves:  ****                ****                   ****  ****
Green/Cycle: 0.11 0.21  0.58 0.10 0.20  0.20 0.20 0.20  0.20 0.37 0.37  0.37
Volume/Cap:  0.81 0.30  0.47 0.40 0.66  0.66 0.48 0.48  0.71 0.81 0.28  0.28
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   43.1 21.8   8.0 28.0 25.3  25.3 23.1 23.1  26.2 23.1 14.1  14.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  43.1 21.8   8.0 28.0 25.3  25.3 23.1 23.1  26.2 23.1 14.1  14.1
Queue:          5    3     7    2    8     5    7    1     7   15    3     4
************************************************************************
```

Table J.7-1 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union/5th/I-880 NB Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.151
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	17.3
Optimal Cycle:	71	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0	1	1 1	0 0	1	1 0	0 1	0	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	0	175	45	0	154	31	24	43	13	205	31	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	175	45	0	154	31	24	43	13	205	31	115
Added Vol:	0	0	227	0	0	0	0	0	0	153	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	175	272	0	154	31	24	43	13	358	31	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	175	272	0	154	31	24	43	13	358	31	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	175	272	0	154	31	24	43	13	358	31	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	193	299	0	162	33	25	45	14	358	31	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	1.00	0.97	0.97	0.96	0.96	0.96	0.95	1.00	0.85
Lanes:	0.00	1.18	1.82	0.00	1.66	0.34	0.60	1.07	0.33	1.00	1.00	1.00
Final Sat.:	0	2035	3152	0	3062	624	1086	1955	608	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.09	0.00	0.05	0.05	0.02	0.02	0.02	0.20	0.02	0.07
Crit Moves:		****		****				****			****	
Green/Cycle:	0.00	0.22	0.22	0.00	0.22	0.22	0.20	0.20	0.20	0.47	0.47	0.47
Volume/Cap:	0.00	0.42	0.42	0.00	0.24	0.24	0.12	0.12	0.12	0.42	0.03	0.15
Level Of Service Module:												
Delay/Veh:	0.0	21.7	21.7	0.0	20.6	20.6	21.2	21.2	21.2	11.7	9.3	9.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	21.7	21.7	0.0	20.6	20.6	21.2	21.2	21.2	11.7	9.3	9.9
Queue:	0	5	7	0	4	1	1	1	0	7	0	2

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th/I-880 NB Ramp/Frontage Rd.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.509
Loss Time (sec):	10 (Y+R = 4 sec)	Average Delay (sec/veh):	23.3
Optimal Cycle:	70	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0	1	1 0	1 0	0	0 2	1 0	2	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	0	548	21	17	0	94	0	16	0	0	62	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	548	21	17	0	94	0	16	0	0	62	1
Added Vol:	564	0	0	0	0	275	227	2	0	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	564	548	21	17	0	369	227	18	0	0	70	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	564	548	21	17	0	369	227	18	0	0	70	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	564	548	21	17	0	369	227	18	0	0	70	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.13	1.00	1.05	1.00	1.00	1.05	1.05
Final Vol.:	564	575	22	17	0	417	227	18	0	0	74	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.93	0.07	1.00	0.00	2.00	1.00	2.00	0.00	0.00	1.97	0.03
Final Sat.:	1805	3623	139	1805	0	3230	1805	3800	0	0	3749	51
Capacity Analysis Module:												
Vol/Sat:	0.31	0.16	0.16	0.01	0.00	0.13	0.13	0.00	0.00	0.00	0.02	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.36	0.37	0.37	0.19	0.00	0.34	0.14	0.34	0.00	0.00	0.20	0.20
Volume/Cap:	0.88	0.43	0.43	0.05	0.00	0.38	0.88	0.01	0.00	0.00	0.10	0.10
Level Of Service Module:												
Delay/Veh:	28.6	15.3	15.3	21.6	0.0	16.1	45.7	14.0	0.0	0.0	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	15.3	15.3	21.6	0.0	16.1	45.7	14.0	0.0	0.0	21.1	21.1
Queue:	17	12	1	0	0	9	8	0	0	0	2	0

Table J.7-1 (Continued)

```
NOBLD-AM.CMD              Tue Nov 5, 1996 13:08:31                  Page 16-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                         No Project Alternative
                              AM Peak Hour
-----------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #16 7th/I-880 SB Ramp
*****************************************************************************
Cycle (sec):          100             Critical Vol./Cap. (X):        0.342
Loss Time (sec):        5 (Y+R =  4 sec) Average Delay (sec/veh):      1.6
Optimal Cycle:         35             Level Of Service:                  A
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0   20   20    10   20   20
Lanes:       0  0  0  0  0   0  0  0  0  0   0  0  2  0  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0    0     0    0    0     0    0    0    65    0    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   0    0    0     0    0    0     0    0    0    65    0    0
Added Vol:     0    0    0     0    0    0     0  229  495     0  847    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   0    0    0     0    0    0     0  229  495    65  847    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    0    0    0     0    0    0     0  229  495    65  847    0
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   0    0    0     0    0    0     0  229  495    65  847    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.05 1.00  1.03 1.05 1.00
Final Vol.:    0    0    0     0    0    0     0  240  495    67  890    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 0.85  0.95 1.00 1.00
Lanes:       0.00 0.00 0.00  0.00 0.00 0.00  0.00 2.00 1.00  2.00 2.00 0.00
Final Sat.:    0    0    0     0    0    0     0 3800 1615  3610 3800    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00 0.00  0.00 0.00 0.00  0.00 0.06 0.31  0.02 0.23 0.00
Crit Moves:                                            ****  ****
Green/Cycle: 0.00 0.00 0.00  0.00 0.00 0.00  0.00 0.85 0.85  0.10 0.95 0.00
Volume/Cap:  0.00 0.00 0.00  0.00 0.00 0.00  0.00 0.07 0.36  0.19 0.25 0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0  0.0  0.0   0.0  0.0  0.0   0.0  0.8  1.1  26.7  0.1  0.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0  0.0   0.0  0.0  0.0   0.0  0.8  1.1  26.7  0.1  0.0
Queue:         0    0    0     0    0    0     0    1    3     2    2    0
*****************************************************************************

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```

```
NOBLD-AM.CMD              Tue Nov 5, 1996 13:08:31                  Page 17-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                         No Project Alternative
                              AM Peak Hour
-----------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #17 14th/I-880 Frontage Rd.
*****************************************************************************
Average Delay (sec/veh):      2.5      Worst Case Level Of Service:        C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0   89    30    0    0     0    0    0   140    0    6
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   0    0   89    30    0    0     0    0    0   140    0    6
Added Vol:     0  227    0     0  275    0     0    0    0     0    0    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   0  227   89    30  275    0     0    0    0   140    0    6
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    0  227   89    30  275    0     0    0    0   140    0    6
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:    0  227   89    30  275    0     0    0    0   140    0    6
Adjusted Volume Module:
Grade:            0%               0%               0%               0%
% Cycle/Cars:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:     1.10 1.00 1.00  1.10 1.00 1.00  1.10 1.10 1.10  1.10 1.10 1.10
Cycl/Car PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:      0  227   89    33  275    0     0    0    0   154    0    7
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx  2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx  5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   316 xxxx xxxxx  xxxx xxxx xxxxx   576 xxxx  158
Potent Cap.: xxxx xxxx xxxxx  1160 xxxx xxxxx  xxxx xxxx xxxxx   453 xxxx 1151
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.97 xxxx 1.00
Move Cap.:   xxxx xxxx xxxxx  1160 xxxx xxxxx  xxxx xxxx xxxxx   440 xxxx 1151
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   3.2 xxxx xxxxx xxxxx xxxx xxxxx  12.0 xxxx  3.1
LOS by Move:    *    *    *     A    *    *     *    *    *     C    *    A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    *    *     *    *    *     *    *    *
ApproachDel:         0.0              0.3              0.0             11.6

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Table J.7-1 (Continued)

```
NOBLD-AM.CMD              Tue Nov 5, 1996 13:08:31              Page 18-1
--------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                            No Project Alternative
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #18 W.Grand/I-880 Frontage Rd.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.434
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):      20.6
Optimal Cycle:       81              Level Of Service:                 C
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:   10    20    20   10    20    20   10    20    20   10    20    20
Lanes:        1  0  1  1  0    1  1  0  1  0    1  0  1  1  0    1  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9     0     0  678    48     6   65   234    12    0   152   449
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:    9     0     0  678    48     6   65   234    12    0   152   449
Added Vol:      0   151    76    0   185     0    0   134     0   90   147     0
PasserByVol:    0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:    9   151    76  678   233     6   65   368    12   90   299   449
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Volume:     9   151    76  678   233     6   65   368    12   90   299   449
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:    9   151    76  678   233     6   65   368    12   90   299   449
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.05  1.05 1.05  1.00  1.00 1.00  1.05  1.05 1.00  1.10  1.10
Final Vol.:     9   159    80  712   233     6   65   387    13   90   329   494
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  0.95  0.95  0.95 0.95  1.00  1.00 0.95  1.00  1.00 0.95  0.91  0.91
Lanes:       1.00  1.33  0.67 2.00  0.97  0.03 1.00  1.94  0.06 1.00  1.20  1.80
Final Sat.:  1805  2402  1208 3610  1852    48 1805  3677   123 1805  2074  3113
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.07  0.07 0.20  0.13  0.13 0.04  0.11  0.11 0.05  0.16  0.16
Crit Moves:        ****             ****       ****                   ****
Green/Cycle: 0.20  0.20  0.20 0.33  0.33  0.33 0.10  0.24  0.24 0.12  0.26  0.26
Volume/Cap:  0.02  0.33  0.33 0.60  0.38  0.38 0.36  0.43  0.43 0.41  0.60  0.60
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   20.8  22.2  22.2 18.7  16.8  16.8 27.7  21.0  21.0 27.0  21.4  21.4
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  20.8  22.2  22.2 18.7  16.8  16.8 27.7  21.0  21.0 27.0  21.4  21.4
Queue:          0     4     2   17     5     0    2     9     0    2     8    12
********************************************************************************
```

Table J.7-2

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	FISCO 4 & 5	200.00	Employees	0.06	0.21	12	42	54	1.4
	Zone 1 Subtotal					12	42	54	1.4
2	FISCO 1,2,3	500.00	Employees	0.06	0.21	30	105	135	3.6
	Zone 2 Subtotal					30	105	135	3.6
4	SP Rail Term	130.00	Employees	0.10	0.36	13	47	60	1.6
	Zone 4 Subtotal					13	47	60	1.6
5	UP Rail Term	82.00	Employees	0.10	0.36	8	30	38	1.0
	Zone 5 Subtotal					8	30	38	1.0
6	Middle Harbr	516.00	Employees	0.06	0.22	31	114	145	3.8
	Zone 6 Subtotal					31	114	145	3.8
7	7th St Harbr	613.00	Employees	0.06	0.22	37	135	172	4.6
	Zone 7 Subtotal					37	135	172	4.6
8	Outer Harbor	706.00	Employees	0.06	0.21	42	148	190	5.0
	Zone 8 Subtotal					42	148	190	5.0
16	Middle Harbr	1.00	Trucks Inter	17.00	20.00	17	20	37	1.0
	Zone 16 Subtotal					17	20	37	1.0
17	7th St Harbr	1.00	Trucks Inter	20.00	24.00	20	24	44	1.2
	Zone 17 Subtotal					20	24	44	1.2
18	Outer Harbor	1.00	Trucks Inter	23.00	27.00	23	27	50	1.3
	Zone 18 Subtotal					23	27	50	1.3
24	SP Rail Term	1.00	Truck External	213.00	255.00	213	255	468	12.4
	Zone 24 Subtotal					213	255	468	12.4
25	UP Rail Term	1.00	Truck External	115.00	138.00	115	138	253	6.7
	Zone 25 Subtotal					115	138	253	6.7
26	Middle Harbr	1.00	Truck External	273.00	327.00	273	327	600	15.9
	Zone 26 Subtotal					273	327	600	15.9
27	7th St Harbr	1.00	Truck External	325.00	388.00	325	388	713	18.9
	Zone 27 Subtotal					325	388	713	18.9
28	Outer Harbor	1.00	Truck External	374.00	447.00	374	447	821	21.7

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					374	447	821	21.7
TOTAL						1533	2247	3780	100.0

Traffix 6.8.1412 (c) 1995 Dowling Assoc. Licensed to Dowling Assoc., Oakland

Table J.7-2 (Continued)

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FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 4	5	11	12	13	14	15	16
1	0.0	0.0	10.0	30.0	7.0	19.0	19.0	15.0
2	0.0	0.0	10.0	30.0	7.0	19.0	19.0	15.0
4	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
5	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
16	62.2	33.6	0.0	4.2	0.0	0.0	0.0	0.0
17	62.2	33.6	0.0	4.2	0.0	0.0	0.0	0.0
18	62.2	33.6	0.0	4.2	0.0	0.0	0.0	0.0
24	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
25	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

NOBLD-PM.CMD   Mon Nov 4, 1996 15:06:42   Page 3-1

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Turning Movement Report
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime/Burma													
Base	5	590	0	0	109	0	0	0	50	0	0	0	754
Added	0	315	0	0	211	119	192	0	0	0	0	0	836
Total	5	905	0	0	320	119	192	0	50	0	0	0	1590
#4 Maritime/14th													
Base	0	414	28	105	132	0	0	0	0	92	0	290	1061
Added	229	187	0	0	120	91	128	0	303	0	0	0	1057
Total	229	601	28	105	252	91	128	0	303	92	0	290	2118
#5 Maritime/7th Ext.													
Base	36	0	0	0	0	75	223	0	74	0	0	0	408
Added	5	413	0	0	421	1	3	0	19	0	0	0	863
Total	41	413	0	0	421	76	226	0	93	0	0	0	1271
#6 7th/7th Ext.													
Base	0	0	0	31	18	0	0	0	19	0	0	0	68
Added	19	126	59	296	99	46	80	444	23	45	317	212	1765
Total	19	126	59	327	117	46	80	444	42	45	317	212	1833
#7 Middle Harbor/Gate 2													
Base	95	0	229	0	0	0	0	215	131	94	88	0	852
Added	7	0	118	0	0	0	0	206	2	34	169	0	536
PassBy	117	0	176	0	0	0	0	0	176	264	0	0	733
Total	219	0	523	0	0	0	0	421	309	392	257	0	2121
#8 Adeline St./ 3rd St.													
Base	36	0	122	43	0	15	30	14	13	89	39	78	479
Added	0	874	0	0	572	0	0	0	0	0	0	0	1446
Total	36	874	122	43	572	15	30	14	13	89	39	78	1925
#12 Maritime/W.Grand/I-880 Ramps													
Base	0	23	0	9	23	23	20	454	210	0	624	13	1399
Added	366	0	140	0	0	0	0	0	224	106	0	0	836
Total	366	23	140	9	23	23	20	454	434	106	624	13	2235
#13 Adeline/5th/I-880 SB Ramps													
Base	0	0	0	241	0	69	138	157	0	0	202	616	1423
Added	205	160	509	0	97	0	0	0	126	350	0	0	1446
Total	205	160	509	241	97	69	138	157	126	350	202	616	2869
#14 Union/5th/I-880 NB Ramps													
Base	0	194	281	0	144	30	31	97	18	32	31	34	892
Added	0	0	126	0	0	0	0	0	0	205	0	0	331
Total	0	194	407	0	144	30	31	97	18	237	31	34	1223

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#15 7th/I-880 NB Ramp/Frontage Rd.													
Base	0	197	3	2	0	205	0	108	0	0	53	1	569
Added	391	0	0	0	0	181	258	6	0	0	2	0	838
Total	391	197	3	2	0	386	258	114	0	0	55	1	1407
#16 7th/I-880 SB Ramp													
Base	0	0	0	0	0	0	0	0	7	378	0	0	385
Added	0	0	0	0	0	0	0	264	534	0	574	0	1372
Total	0	0	0	0	0	0	0	264	541	378	574	0	1757
#17 14th/I-880 Frontage Rd.													
Base	0	62	130	4	0	0	0	0	0	115	0	7	318
Added	0	258	0	0	181	0	0	0	0	0	0	0	439
Total	0	320	130	4	181	0	0	0	0	115	0	7	757
#18 W.Grand/I-880 Frontage Rd.													
Base	75	72	0	759	0	6	86	277	3	0	456	330	2064
Added	0	173	85	0	121	0	0	140	0	60	106	0	685
Total	75	245	85	759	121	6	86	417	3	60	562	330	2749
#138													
Base	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
Added	0	168	0	0	123	24	20	0	0	0	0	0	335
Total	0	0	0	0	0	-0	0	0	0	0	0	0	0
#158													
Base	0	-259	-163	0	0	0	0	0	0	0	0	0	-422
Added	0	259	163	0	0	0	0	0	0	0	0	0	422
Total	0	0	-0	0	0	0	0	0	0	0	0	0	0
#159													
Base	-259	0	0	0	0	0	0	0	0	0	-105	0	-364
Added	259	0	0	0	0	0	0	0	0	0	105	0	365
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#160													
Base	0	0	0	0	0	0	0	0	0	-105	-259	0	-364
Added	0	0	0	0	0	0	0	0	0	105	259	0	365
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#161													
Base	0	0	0	0	-105	0	0	0	-150	0	0	0	-255
Added	0	0	0	0	105	0	0	0	150	0	0	0	256
Total	0	0	0	0	0	0	0	0	0	0	0	0	1

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#165													
Base	0	0	0	0	-126	0	0	0	-534	0	0	0	-660
Added	0	0	0	0	126	0	0	0	534	0	0	0	660
Total	0	0	0	0	-0	0	0	0	-0	0	0	0	-0
#170													
Base	0	-205	-391	0	0	0	0	0	0	0	0	0	-596
Added	0	205	391	0	0	0	0	0	0	0	0	0	597
Total	0	0	0	0	0	0	0	0	0	0	0	0	1
#177													
Base	0	0	0	0	-214	0	0	-163	0	0	0	0	-377
Added	0	0	0	0	214	0	0	163	0	0	0	0	377
Total	0	0	0	0	0	0	0	-0	0	0	0	0	0
#178													
Base	0	-323	0	0	0	0	-116	-47	0	0	0	0	-486
Added	0	323	0	0	0	0	116	47	0	0	0	0	486
Total	0	-0	0	0	0	0	-0	0	0	0	0	0	-0
#182													
Base	0	-439	0	0	0	-297	0	0	0	0	0	0	-736
Added	0	439	0	0	0	297	0	0	0	0	0	0	736
Total	0	-0	0	0	0	0	0	0	0	0	0	0	0
#201													
Base	0	0	0	0	0	0	0	-1043	0	0	0	0	-104
Added	0	0	0	0	0	0	0	1043	0	0	0	0	1043
Total	0	0	0	0	0	0	0	-0	0	0	0	0	-0
#204													
Base	0	0	0	-375	-668	0	0	0	0	0	0	0	-1043
Added	0	0	0	375	668	0	0	0	0	0	0	0	1043
Total	0	0	0	-0	-0	0	0	0	0	0	0	0	-0
#207													
Base	0	-463	0	0	0	0	0	0	0	0	0	-278	-741
Added	0	463	0	0	0	0	0	0	0	0	0	278	741
Total	0	0	0	0	0	0	0	0	0	0	0	-0	0
#214													
Base	0	0	0	0	0	0	0	0	0	-350	-391	0	-741
Added	0	0	0	0	0	0	0	0	0	350	391	0	741
Total	0	0	0	0	0	0	0	0	0	-0	0	0	0

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#217													
Base	0	0	0	0	-19	0	0	-47	0	0	0	0	-66
Added	0	0	0	0	19	0	0	47	0	0	0	0	66
Total	0	0	0	0	-0	0	0	0	0	0	0	0	-0
#218													
Base	0	-39	0	0	0	0	-31	-16	0	0	0	0	-86
Added	0	39	0	0	0	0	31	16	0	0	0	0	86
Total	0	-0	0	0	0	0	-0	0	0	0	0	0	-0
#219													
Base	0	-70	0	0	0	0	0	0	0	0	-5	0	-75
Added	0	70	0	0	0	0	0	0	0	0	5	0	74
Total	0	-1	0	0	0	0	0	0	0	0	-0	0	-1
#220													
Base	0	0	0	0	-19	-18	0	0	0	0	-5	0	-42
Added	0	0	0	0	19	18	0	0	0	0	5	0	41
Total	0	0	0	0	-0	-0	0	0	0	0	-0	0	-1
#225													
Base	0	0	0	0	0	0	0	0	0	0	-278	-5	-283
Added	0	0	0	0	0	0	0	0	0	0	278	5	282
Total	0	0	0	0	0	0	0	0	0	0	-0	-0	-1
#226													
Base	0	0	0	-16	0	0	0	-375	0	0	0	0	-391
Added	0	0	0	16	0	0	0	375	0	0	0	0	391
Total	0	0	0	0	0	0	0	-0	0	0	0	0	0
#244													
Base	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609
Added	0	0	0	0	0	302	226	44	0	0	37	0	609
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Link Volume Report
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime/Burma													
Base	595	159	754	109	590	699	50	5	55	0	0	0	1508
Added	315	211	526	329	506	836	192	119	310	0	0	0	1672
Total	910	370	1280	438	1096	1535	242	124	365	0	0	0	3180
#4 Maritime/14th													
Base	442	224	666	237	704	941	0	0	0	382	133	515	2122
Added	416	422	839	211	315	526	430	320	751	0	0	0	2115
Total	858	646	1505	448	1019	1467	430	320	751	382	133	515	4237
#5 Maritime/7th Ext.													
Base	36	74	110	75	223	298	297	111	408	0	0	0	816
Added	419	440	859	422	416	839	22	6	28	0	0	0	1726
Total	455	514	969	497	639	1137	319	117	436	0	0	0	2542
#6 7th/7th Ext.													
Base	0	37	37	49	0	49	19	0	19	0	31	31	136
Added	204	166	370	440	419	859	547	382	929	574	798	1372	3531
Total	204	203	407	489	419	908	566	382	948	574	829	1403	3667
#7 Middle Harbor/Gate 2													
Base	324	225	549	0	0	0	346	183	529	182	444	626	1704
Added	125	36	161	0	0	0	208	176	384	203	324	526	1071
Total	449	261	710	0	0	0	554	359	913	385	768	1152	2775
#8 Adeline St./ 3rd St.													
Base	158	102	260	58	108	166	57	90	147	206	179	385	958
Added	874	572	1446	572	874	1446	0	0	0	0	0	0	2892
Total	1032	674	1706	630	982	1612	57	90	147	206	179	385	3850
#12 Maritime/W.Grand/I-880 Ramps													
Base	23	233	256	55	56	111	684	647	1331	637	463	1100	2798
Added	506	329	836	0	0	0	224	366	590	106	140	246	1672
Total	529	562	1092	55	56	111	908	1013	1921	743	603	1346	4470
#13 Adeline/5th/I-880 SB Ramps													
Base	0	0	0	310	754	1064	295	271	566	818	398	1216	2846
Added	874	572	1446	97	160	257	126	205	331	350	509	858	2892
Total	874	572	1446	407	914	1321	421	476	897	1168	907	2074	5738
#14 Union/5th/I-880 NB Ramps													
Base	475	194	669	174	259	433	146	61	207	97	378	475	1784
Added	126	205	331	0	0	0	0	0	0	205	126	331	662
Total	601	399	1000	174	259	433	146	61	207	302	504	806	2446

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#15 7th/I-880 NB Ramp/Frontage Rd.													
Base	200	0	200	207	198	405	108	258	366	54	113	167	1138
Added	391	0	391	181	258	439	264	574	838	2	6	8	1677
Total	591	0	591	388	456	844	372	832	1204	56	119	175	2815
#16 7th/I-880 SB Ramp													
Base	0	385	385	0	0	0	7	0	7	378	0	378	770
Added	0	534	534	0	0	0	798	574	1372	574	264	838	2745
Total	0	919	919	0	0	0	805	574	1379	952	264	1216	3515
#17 14th/I-880 Frontage Rd.													
Base	192	115	307	4	69	73	0	0	0	122	134	256	636
Added	258	181	439	181	258	439	0	0	0	0	0	0	878
Total	450	296	746	185	327	512	0	0	0	122	134	256	1514
#18 W.Grand/I-880 Frontage Rd.													
Base	147	3	150	765	488	1253	366	537	903	786	1036	1822	4128
Added	258	181	439	121	173	294	140	106	246	166	225	391	1369
Total	405	184	589	886	661	1547	506	643	1149	952	1261	2213	5497
#138													
Base	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
Added	168	123	291	147	188	335	20	24	44	0	0	0	670
Total	0	0	0	-0	0	0	0	-0	0	0	0	0	0
#158													
Base	-422	0	-422	0	-259	-259	0	0	0	0	-163	-163	-844
Added	422	0	422	0	259	259	0	0	0	0	163	163	844
Total	0	0	0	0	0	0	0	0	0	0	-0	-0	0
#159													
Base	-259	0	-259	0	0	0	0	-364	-364	-105	0	-105	-728
Added	259	0	259	0	0	0	0	365	365	105	0	105	729
Total	0	0	0	0	0	0	0	1	1	0	0	0	1
#160													
Base	0	-105	-105	0	0	0	0	-259	-259	-364	0	-364	-728
Added	0	105	105	0	0	0	0	259	259	365	0	365	729
Total	0	0	0	0	0	0	0	0	0	1	0	1	1
#161													
Base	0	-255	-255	-105	0	-105	-150	0	-150	0	0	0	-510
Added	0	256	256	105	0	105	150	0	150	0	0	0	511
Total	0	1	1	0	0	0	0	0	0	0	0	0	1

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#165													
Base	0	-660	-660	-126	0	-126	-534	0	-534	0	0	0	-1320
Added	0	660	660	126	0	126	534	0	534	0	0	0	1319
Total	0	-0	-0	-0	0	-0	-0	0	-0	0	0	0	-1
#170													
Base	-596	0	-596	0	-205	-205	0	0	0	0	-391	-391	-1192
Added	597	0	597	0	205	205	0	0	0	0	391	391	1193
Total	1	0	1	0	0	0	0	0	0	0	0	0	1
#177													
Base	0	-214	-214	-214	0	-214	-163	0	-163	0	-163	-163	-754
Added	0	214	214	214	0	214	163	0	163	0	163	163	755
Total	0	0	0	0	0	0	-0	0	-0	0	-0	-0	1
#178													
Base	-323	0	-323	0	-439	-439	-163	0	-163	0	-47	-47	-972
Added	323	0	323	0	439	439	163	0	163	0	47	47	972
Total	-0	0	-0	0	-0	-0	-0	0	-0	0	0	0	-0
#182													
Base	-439	0	-439	-297	-439	-736	0	-297	-297	0	0	0	-1472
Added	439	0	439	297	439	736	0	297	297	0	0	0	1472
Total	-0	0	-0	0	-0	0	0	0	0	0	0	0	0
#201													
Base	0	0	0	0	0	0	-1043	0	-1043	0	-1043	-1043	-208
Added	0	0	0	0	0	0	1043	0	1043	0	1043	1043	2085
Total	0	0	0	0	0	0	-0	0	-0	0	-0	-0	-1
#204													
Base	0	-668	-668	-1043	0	-1043	0	0	0	0	-375	-375	-2086
Added	0	668	668	1043	0	1043	0	0	0	0	375	375	2085
Total	0	-0	-0	-0	0	-0	0	0	0	0	-0	-0	-1
#207													
Base	-463	0	-463	0	-741	-741	0	0	0	-278	0	-278	-1482
Added	463	0	463	0	741	741	0	0	0	278	0	278	1482
Total	0	0	0	0	0	0	0	0	0	-0	0	-0	0
#214													
Base	0	-350	-350	0	0	0	0	-391	-391	-741	0	-741	-1482
Added	0	350	350	0	0	0	0	391	391	741	0	741	1482
Total	0	-0	-0	0	0	0	0	0	0	0	0	0	0

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#217													
Base	0	-19	-19	-19	0	-19	-47	0	-47	0	-47	-47	-132
Added	0	19	19	19	0	19	47	0	47	0	47	47	132
Total	0	-0	-0	-0	0	-0	0	0	0	0	0	0	-0
#218													
Base	-39	0	-39	0	-70	-70	-47	0	-47	0	-16	-16	-172
Added	39	0	39	0	70	70	47	0	47	0	16	16	172
Total	-0	0	-0	0	-1	-1	0	0	0	0	0	0	-0
#219													
Base	-70	0	-70	0	-70	-70	0	-5	-5	-5	0	-5	-150
Added	70	0	70	0	70	70	0	5	5	5	0	5	148
Total	-1	0	-1	0	-1	-1	0	-0	-0	-0	0	-0	-2
#220													
Base	0	-19	-19	-37	0	-37	0	-23	-23	-5	0	-5	-84
Added	0	19	19	37	0	37	0	23	23	5	0	5	83
Total	0	-0	-0	-0	0	-0	0	-0	-0	-0	0	-0	-1
#225													
Base	0	0	0	0	-5	-5	0	-278	-278	-283	0	-283	-566
Added	0	0	0	0	5	5	0	278	278	282	0	282	565
Total	0	0	0	0	-0	-0	0	-0	-0	-1	0	-1	-1
#226													
Base	0	0	0	-16	0	-16	-375	0	-375	0	-391	-391	-782
Added	0	0	0	16	0	16	375	0	375	0	391	391	782
Total	0	0	0	0	0	0	-0	0	-0	0	0	0	0
#244													
Base	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218
Added	0	0	0	302	226	528	270	339	609	37	44	81	1219
Total	0	0	0	0	0	0	0	0	0	0	0	0	1

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base			Future			Change
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	in
# 3 Maritime/Burma	B	7.2	0.211	B	9.9	0.305	+ 2.740 D/V
# 4 Maritime/14th	C	15.9	0.392	C	19.7	0.728	+ 3.786 D/V
# 5 Maritime/7th Ext.	B	6.0	0.156	B	10.6	0.313	+ 4.678 D/V
# 6 7th/7th Ext.	B	5.8	0.018	C	18.6	0.399	+12.831 D/V
# 7 Middle Harbor/Gate 2	B	13.5	0.296	C	19.4	0.756	+ 5.938 D/V
# 8 Adeline St./ 3rd St.	C	19.2	0.084	D	38.1	0.613	+18.979 D/V
# 12 Maritime/W.Grand/I-880 Ramps	B	12.4	0.237	C	18.6	0.415	+ 6.228 D/V
# 13 Adeline/5th/I-880 SB Ramps	C	17.5	0.328	C	20.4	0.522	+ 2.917 D/V
# 14 Union/5th/I-880 NB Ramps	B	12.5	0.178	C	16.3	0.214	+ 3.865 D/V
# 15 7th/I-880 NB Ramp/Frontage Rd.	B	11.2	0.079	C	19.2	0.417	+ 7.984 D/V
# 16 7th/I-880 SB Ramp	A	2.6	0.113	B	6.3	0.466	+ 3.742 D/V
# 17 14th/I-880 Frontage Rd.	A	1.9	0.000	C	1.8	0.000	+ 0.000 V/C
# 18 W.Grand/I-880 Frontage Rd.	C	21.1	0.505	C	21.6	0.614	+ 0.458 D/V

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime/Burma

Cycle (sec): 100 Critical Vol./Cap. (X): 0.305
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 9.9
Optimal Cycle: 58 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	5	590	0	0	109	0	0	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	590	0	0	109	0	0	0	50	0	0	0
Added Vol:	0	315	0	0	211	119	192	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	905	0	0	320	119	192	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	905	0	0	320	119	192	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	905	0	0	320	119	192	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	950	0	0	336	125	192	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.96	0.96	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.46	0.54	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3800	0	1900	2659	989	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.00	0.00	0.13	0.13	0.11	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green/Cycle:	0.24	0.62	0.00	0.00	0.48	0.48	0.20	0.00	0.20	0.00	0.00	0.00
Volume/Cap:	0.01	0.40	0.00	0.00	0.26	0.26	0.53	0.00	0.15	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	18.7	6.3	0.0	0.0	10.0	10.0	24.3	0.0	21.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.7	6.3	0.0	0.0	10.0	10.0	24.3	0.0	21.4	0.0	0.0	0.0
Queue:	0	13	0	0	6	2	5	0	1	0	0	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime/14th

Cycle (sec): 100 Critical Vol./Cap. (X): 0.728
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.7
Optimal Cycle: 58 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	0	414	28	105	132	0	0	0	0	92	0	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	414	28	105	132	0	0	0	0	92	0	290
Added Vol:	229	187	0	0	120	91	128	0	303	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	601	28	105	252	91	128	0	303	92	0	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	601	28	105	252	91	128	0	303	92	0	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	601	28	105	252	91	128	0	303	92	0	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	229	631	29	105	264	96	128	0	303	92	0	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	0.96	0.96	0.51	1.00	0.51	0.40	1.00	0.85
Lanes:	1.00	1.91	0.09	1.00	1.47	0.53	0.30	0.00	0.70	1.00	0.00	1.00
Final Sat.:	1805	3597	165	1805	2675	973	288	0	682	760	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.18	0.18	0.06	0.10	0.10	0.44	0.00	0.44	0.12	0.00	0.18
Crit Moves:	****				****		****					
Green/Cycle:	0.16	0.24	0.24	0.12	0.20	0.20	0.56	0.00	0.72	0.56	0.00	0.56
Volume/Cap:	0.79	0.73	0.73	0.48	0.49	0.49	0.79	0.00	0.62	0.22	0.00	0.32
Level Of Service Module:												
Delay/Veh:	35.7	24.8	24.8	27.9	23.4	23.4	16.7	0.0	5.8	7.2	0.0	7.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.7	24.8	24.8	27.9	23.4	23.4	16.7	0.0	5.8	7.2	0.0	7.7
Queue:	7	17	1	3	7	2	4	0	5	1	0	4

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime/7th Ext.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.313
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	10.6
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Ovl			Ovl			Include	
Min. Green:	10	20	20	0	20	20	10	0	20	0	0	0
Lanes:	1 0 1 1 0			0 0 1 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	36	0	0	0	0	75	223	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	0	0	0	75	223	0	74	0	0	0
Added Vol:	5	413	0	0	421	1	3	0	19	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	413	0	0	421	76	226	0	93	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	413	0	0	421	76	226	0	93	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	413	0	0	421	76	226	0	93	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	41	434	0	0	443	80	226	0	93	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.98	0.98	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.69	0.31	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3800	0	0	3154	570	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.00	0.00	0.14	0.14	0.13	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.10	0.53	0.00	0.00	0.43	0.82	0.39	0.00	0.49	0.00	0.00	0.00
Volume/Cap:	0.23	0.21	0.00	0.00	0.32	0.17	0.32	0.00	0.12	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	26.9	7.9	0.0	0.0	12.1	1.2	14.0	0.0	9.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.9	7.9	0.0	0.0	12.1	1.2	14.0	0.0	9.0	0.0	0.0	0.0
Queue:	1	6	0	0	8	0	4	0	1	0	0	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th/7th Ext.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.399
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	18.6
Optimal Cycle:	68	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Ovl	
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 0 1		
Volume Module:												
Base Vol:	0	0	0	31	18	0	0	0	19	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	18	0	0	0	19	0	0	0
Added Vol:	19	126	59	296	99	46	80	444	23	45	317	212
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	126	59	327	117	46	80	444	42	45	317	212
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	19	126	59	327	117	46	80	444	42	45	317	212
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	19	126	59	327	117	46	80	444	42	45	317	212
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.05	1.00
Final Vol.:	19	132	62	327	122	48	80	488	46	45	333	212
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.96	0.96	0.95	0.99	0.99	0.95	1.00	0.85
Lanes:	1.00	1.36	0.64	1.00	1.44	0.56	1.00	2.74	0.26	1.00	2.00	1.00
Final Sat.:	1805	2456	1154	1805	2618	1030	1805	5157	486	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.18	0.05	0.05	0.04	0.09	0.09	0.02	0.09	0.13
Crit Moves:		****		****			****				****	
Green/Cycle:	0.21	0.20	0.20	0.42	0.41	0.41	0.10	0.20	0.20	0.10	0.20	0.62
Volume/Cap:	0.05	0.27	0.27	0.43	0.11	0.11	0.43	0.47	0.47	0.24	0.43	0.21
Level Of Service Module:												
Delay/Veh:	20.6	21.9	21.9	13.7	11.8	11.8	28.3	23.1	23.1	26.8	22.8	5.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.6	21.9	21.9	13.7	11.8	11.8	28.3	23.1	23.1	26.8	22.8	5.4
Queue:	0	3	1	7	2	1	2	12	1	1	8	3

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor/Gate 2

Cycle (sec): 100 Critical Vol./Cap. (X): 0.756
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 19.4
Optimal Cycle: 93 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	95	0	229	0	0	0	0	215	131	94	88	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	0	229	0	0	0	0	215	131	94	88	0
Added Vol:	7	0	118	0	0	0	0	206	2	34	169	0
PasserByVol:	117	0	176	0	0	0	0	0	176	264	0	0
Initial Fut:	219	0	523	0	0	0	0	421	309	392	257	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	219	0	523	0	0	0	0	421	309	392	257	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	0	523	0	0	0	0	421	309	392	257	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
Final Vol.:	219	0	523	0	0	0	0	442	325	392	270	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.94	0.94	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.15	0.85	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2058	1514	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.32	0.00	0.00	0.00	0.00	0.21	0.21	0.22	0.07	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.43	0.00	0.43	0.00	0.00	0.00	0.00	0.28	0.28	0.29	0.57	0.00
Volume/Cap:	0.28	0.00	0.76	0.00	0.00	0.00	0.00	0.76	0.76	0.76	0.12	0.00
Level Of Service Module:												
Delay/Veh:	12.1	0.0	18.9	0.0	0.0	0.0	0.0	23.4	23.4	25.3	6.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.1	0.0	18.9	0.0	0.0	0.0	0.0	23.4	23.4	25.3	6.4	0.0
Queue:	4	0	13	0	0	0	0	12	9	11	3	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.613
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 38.1
Optimal Cycle: 92 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1 0 1 0			0 1 0 1 0			0 1 0 1 0			0 1 0 1 0		
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	874	0	0	572	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	874	122	43	572	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	874	122	43	572	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	874	122	43	572	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	918	128	45	601	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.07	1.69	0.24	0.14	1.81	0.05	1.00	0.52	0.48	0.84	0.39	0.77
Final Sat.:	131	3154	440	258	3450	92	1805	916	851	1512	663	1325
Capacity Analysis Module:												
Vol/Sat:	0.29	0.29	0.29	0.17	0.17	0.17	0.02	0.02	0.02	0.06	0.06	0.06
Crit Moves:		****			****			****			****	
Green/Cycle:	0.30	0.30	0.30	0.18	0.18	0.18	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	0.97	0.97	0.97	0.97	0.97	0.97	0.08	0.08	0.08	0.29	0.29	0.29
Level Of Service Module:												
Delay/Veh:	37.1	37.1	37.1	46.3	46.3	46.3	21.0	21.0	21.0	22.0	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.1	37.1	37.1	46.3	46.3	46.3	21.0	21.0	21.0	22.0	22.0	22.0
Queue:	2	31	6	3	21	1	1	0	0	2	1	2

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime/W.Grand/I-880 Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.415
Loss Time (sec):	10 (Y+R = 4 sec)	Average Delay (sec/veh):	18.6
Optimal Cycle:	70	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	2 0	0 1	0	1 0	0 1	0	1 0	1 1	1	1 0	1 1	0
Volume Module:												
Base Vol:	0	23	0	9	23	23	20	454	210	0	624	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	23	0	9	23	23	20	454	210	0	624	13
Added Vol:	366	0	140	0	0	0	0	0	224	106	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	366	23	140	9	23	23	20	454	434	106	624	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	366	23	140	9	23	23	20	454	434	106	624	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	366	23	140	9	23	23	20	454	434	106	624	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.05	1.05
Final Vol.:	377	23	140	9	23	23	20	499	477	106	655	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.87	0.87	0.95	0.93	0.93	0.95	0.93	0.93	0.95	1.00	1.00
Lanes:	2.00	0.14	0.86	1.00	0.50	0.50	1.00	1.53	1.47	1.00	1.96	0.04
Final Sat.:	3610	233	1420	1805	884	884	1805	2710	2591	1805	3720	80
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.00	0.03	0.03	0.01	0.18	0.18	0.06	0.18	0.18
Crit Moves:	****				****			****		****		
Green/Cycle:	0.21	0.27	0.27	0.14	0.20	0.20	0.16	0.37	0.37	0.12	0.33	0.33
Volume/Cap:	0.50	0.36	0.36	0.04	0.13	0.13	0.07	0.50	0.50	0.50	0.54	0.54
Level Of Service Module:												
Delay/Veh:	22.9	19.1	19.1	24.2	21.2	21.2	22.9	15.8	15.8	28.2	18.2	18.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.9	19.1	19.1	24.2	21.2	21.2	22.9	15.8	15.8	28.2	18.2	18.2
Queue:	9	1	3	0	1	1	0	11	10	3	15	0

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline/5th/I-880 SB Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.522
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	20.4
Optimal Cycle:	82	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	10	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	1 1	0 1	0	1 0	0 1	1
Volume Module:												
Base Vol:	0	0	0	241	0	69	138	157	0	0	202	616
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	241	0	69	138	157	0	0	202	616
Added Vol:	205	160	509	0	97	0	0	0	126	350	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	160	509	241	97	69	138	157	126	350	202	616
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	160	509	241	97	69	138	157	126	350	202	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	160	509	241	97	69	138	157	126	350	202	308
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.05	1.10	1.10	1.10	1.00	1.05	1.05
Final Vol.:	205	160	509	241	101	72	152	173	138	350	212	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.94	0.94	0.94	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	1.17	0.83	1.00	1.11	0.89	1.00	0.79	1.21
Final Sat.:	1805	1900	1615	1805	2085	1487	1788	1989	1586	1805	1370	2088
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.32	0.13	0.05	0.05	0.09	0.09	0.09	0.19	0.15	0.15
Crit Moves:		****		****					****		****	
Green/Cycle:	0.21	0.20	0.51	0.21	0.20	0.20	0.16	0.16	0.16	0.31	0.31	0.31
Volume/Cap:	0.54	0.42	0.62	0.64	0.24	0.24	0.52	0.53	0.53	0.64	0.51	0.51
Level Of Service Module:												
Delay/Veh:	23.9	22.7	12.4	25.7	21.8	21.8	25.1	25.2	25.2	21.0	18.8	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.9	22.7	12.4	25.7	21.8	21.8	25.1	25.2	25.2	21.0	18.8	18.8
Queue:	5	4	11	6	2	2	4	5	4	9	5	8

Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union/5th/I-880 NB Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.214
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	16.3
Optimal Cycle:	71	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0	1 1	1	0 0	1 1	0	0 1	0 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	194	281	0	144	30	31	97	18	32	31	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	194	281	0	144	30	31	97	18	32	31	34
Added Vol:	0	0	126	0	0	0	0	0	0	205	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	194	407	0	144	30	31	97	18	237	31	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	194	407	0	144	30	31	97	18	237	31	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	194	407	0	144	30	31	97	18	237	31	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.05	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	194	427	0	151	32	33	102	19	237	31	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	1.00	0.97	0.97	0.97	0.97	0.97	0.95	1.00	0.85
Lanes:	0.00	1.00	2.00	0.00	1.65	0.35	0.43	1.32	0.25	1.00	1.00	1.00
Final Sat.:	0	1900	3230	0	3041	645	790	2442	455	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.13	0.00	0.05	0.05	0.04	0.04	0.04	0.13	0.02	0.02
Crit Moves:			****	****				****			****	
Green/Cycle:	0.00	0.35	0.35	0.00	0.35	0.35	0.20	0.20	0.20	0.34	0.34	0.34
Volume/Cap:	0.00	0.29	0.38	0.00	0.14	0.14	0.21	0.21	0.21	0.38	0.05	0.06
Level Of Service Module:												
Delay/Veh:	0.0	15.4	16.0	0.0	14.5	14.5	21.6	21.6	21.6	16.2	14.1	14.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	15.4	16.0	0.0	14.5	14.5	21.6	21.6	21.6	16.2	14.1	14.2
Queue:	0	4	9	0	3	1	1	2	0	5	1	1

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th/I-880 NB Ramp/Frontage Rd.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.417
Loss Time (sec):	10 (Y+R = 4 sec)	Average Delay (sec/veh):	19.2
Optimal Cycle:	70	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0	1 1	0	1 0	0 0	2	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	197	3	2	0	205	0	108	0	0	53	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	197	3	2	0	205	0	108	0	0	53	1
Added Vol:	391	0	0	0	0	181	258	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	391	197	3	2	0	386	258	114	0	0	55	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	391	197	3	2	0	386	258	114	0	0	55	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	391	197	3	2	0	386	258	114	0	0	55	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.13	1.00	1.05	1.00	1.00	1.05	1.05
Final Vol.:	391	207	3	2	0	436	258	120	0	0	58	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	0.00	2.00	1.00	2.00	0.00	0.00	1.97	0.03
Final Sat.:	1805	3746	54	1805	0	3230	1805	3800	0	0	3736	64
Capacity Analysis Module:												
Vol/Sat:	0.22	0.06	0.06	0.00	0.00	0.13	0.14	0.03	0.00	0.00	0.02	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.30	0.33	0.33	0.17	0.00	0.40	0.20	0.40	0.00	0.00	0.20	0.20
Volume/Cap:	0.72	0.17	0.17	0.01	0.00	0.34	0.72	0.08	0.00	0.00	0.08	0.08
Level Of Service Module:												
Delay/Veh:	23.3	15.2	15.2	22.4	0.0	13.6	28.9	12.1	0.0	0.0	21.0	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.3	15.2	15.2	22.4	0.0	13.6	28.9	12.1	0.0	0.0	21.0	21.0
Queue:	10	4	0	0	0	8	7	2	0	0	1	0

Table J.7-2 (Continued)

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NOBLD-PM.CMD              Mon Nov 4, 1996 15:06:42                 Page 16-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                        No Project Alternative
                             PM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #16 7th/I-880 SB Ramp
*****************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.466
Loss Time (sec):       5 (Y+R =  4 sec) Average Delay (sec/veh):        6.3
Optimal Cycle:        35              Level Of Service:                 B
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0    20    20   10    20    20
Lanes:       0  0  0  0  0    0  0  0  0  0    0  0  2  0  1    2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0    0     0     0    0     0     7  378     0     0
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:   0     0     0    0     0     0    0     0     7  378     0     0
Added Vol:     0     0     0    0     0     0    0   264   534    0   574     0
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:   0     0     0    0     0     0    0   264   541  378   574     0
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Volume:    0     0     0    0     0     0    0   264   541  378   574     0
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:   0     0     0    0     0     0    0   264   541  378   574     0
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.05  1.00 1.03  1.05  1.00
Final Vol.:    0     0     0    0     0     0    0   278   541  389   603     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.85 0.95  1.00  1.00
Lanes:       0.00  0.00  0.00 0.00  0.00  0.00 0.00  2.00  1.00 2.00  2.00  0.00
Final Sat.:    0     0     0    0     0     0    0  3800  1615 3610  3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.00  0.00  0.00 0.00  0.07  0.33 0.11  0.16  0.00
Crit Moves:                                                ****  ****
Green/Cycle: 0.00  0.00  0.00 0.00  0.00  0.00 0.00  0.72  0.72 0.23  0.95  0.00
Volume/Cap:  0.00  0.00  0.00 0.00  0.00  0.00 0.00  0.10  0.47 0.47  0.17  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0   0.0   0.0  0.0   0.0   0.0  0.0   2.8   4.1 21.7   0.1   0.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0  0.0   0.0   0.0  0.0   2.8   4.1 21.7   0.1   0.0
Queue:         0     0     0    0     0     0    0     2     6    9     1     0
*****************************************************************************

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```

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NOBLD-PM.CMD              Mon Nov 4, 1996 15:06:42                 Page 17-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                        No Project Alternative
                             PM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
        1994 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #17 14th/I-880 Frontage Rd.
*****************************************************************************
Average Delay (sec/veh):      1.8       Worst Case Level Of Service:      C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    62   130    4     0     0    0     0     0  115     0     7
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:   0    62   130    4     0     0    0     0     0  115     0     7
Added Vol:     0   258     0    0   181     0    0     0     0    0     0     0
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:   0   320   130    4   181     0    0     0     0  115     0     7
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Volume:    0   320   130    4   181     0    0     0     0  115     0     7
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Final Vol.:    0   320   130    4   181     0    0     0     0  115     0     7
Adjusted Volume Module:
Grade:            0%               0%               0%               0%
% Cycle/Cars:  xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
% Truck/Comb:  xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
PCE Adj:     1.10  1.00  1.00 1.10  1.00  1.00 1.10  1.10  1.10 1.10  1.10  1.10
Cycl/Car PCE:  xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
Trck/Cmb PCE:  xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
Adj Vol.:      0   320   130    4   181     0    0     0     0  127     0     8
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx   2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx   5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   450 xxxx xxxxx  xxxx xxxx xxxxx   570 xxxx   225
Potent Cap.: xxxx xxxx xxxxx   983 xxxx xxxxx  xxxx xxxx xxxxx   458 xxxx  1065
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  1.00 xxxx  1.00
Move Cap.:   xxxx xxxx xxxxx   983 xxxx xxxxx  xxxx xxxx xxxxx   455 xxxx  1065
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   3.7 xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx   3.4
LOS by Move:   *     *     *    A     *     *    *     *     *    C     *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *     *     *    *     *     *    *     *     *    *     *     *
ApproachDel:        0.0              0.1              0.0             10.2

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Table J.7-2 (Continued)

FISCO/Port Vision 2000 EIS/EIR
No Project Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #18 W.Grand/I-880 Frontage Rd.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.614
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	21.6
Optimal Cycle:	81	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0 1 1 0			1 1 0 1 0			1 0 1 1 0			1 0 1 1 1		
Volume Module:												
Base Vol:	75	72	0	759	0	6	86	277	3	0	456	330
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	72	0	759	0	6	86	277	3	0	456	330
Added Vol:	0	173	85	0	121	0	0	140	0	60	106	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	245	85	759	121	6	86	417	3	60	562	330
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	245	85	759	121	6	86	417	3	60	562	330
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	245	85	759	121	6	86	417	3	60	562	330
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.00	1.10	1.10
Final Vol.:	75	257	89	797	121	6	86	438	3	60	618	363
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.99	0.99	0.95	1.00	1.00	0.95	0.94	0.94
Lanes:	1.00	1.49	0.51	2.00	0.95	0.05	1.00	1.99	0.01	1.00	1.89	1.11
Final Sat.:	1805	2710	938	3610	1792	89	1805	3774	26	1805	3375	1983
Capacity Analysis Module:												
Vol/Sat:	0.04	0.09	0.09	0.22	0.07	0.07	0.05	0.12	0.12	0.03	0.18	0.18
Crit Moves:		****		****			****				****	
Green/Cycle:	0.20	0.20	0.20	0.32	0.32	0.32	0.10	0.24	0.24	0.12	0.27	0.27
Volume/Cap:	0.21	0.47	0.47	0.68	0.21	0.21	0.48	0.47	0.47	0.27	0.68	0.68
Level Of Service Module:												
Delay/Veh:	21.6	23.2	23.2	20.0	15.9	15.9	29.0	21.1	21.1	25.9	22.2	22.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.6	23.2	23.2	20.0	15.9	15.9	29.0	21.1	21.1	25.9	22.2	22.2
Queue:	2	6	2	20	2	0	2	10	0	2	16	10

Table J7-3

A-AM.CMD Tue Nov 5, 1996 13:15:10 Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	1018.00	Employees	0.26	0.05	265	51	316	5.1
	Zone 1 Subtotal					265	51	316	5.1
3	J.I.T.	360.00	Employees	0.40	0.09	144	32	176	2.9
	Zone 3 Subtotal					144	32	176	2.9
6	Middle Harbr	516.00	Employees	0.26	0.05	134	26	160	2.6
	Zone 6 Subtotal					134	26	160	2.6
7	7th St Harbr	613.00	Employees	0.26	0.05	159	31	190	3.1
	Zone 7 Subtotal					159	31	190	3.1
8	Outer Harbor	706.00	Employees	0.26	0.05	184	35	219	3.5
	Zone 8 Subtotal					184	35	219	3.5
10	New Park	1.00	Total Trips	15.00	15.00	15	15	30	0.5
	Zone 10 Subtotal					15	15	30	0.5
11	New Harbor	1.00	Trucks Inter	248.00	264.00	248	264	512	8.3
	Zone 11 Subtotal					248	264	512	8.3
16	Middle Harbr	1.00	Trucks Inter	125.00	133.00	125	133	258	4.2
	Zone 16 Subtotal					125	133	258	4.2
17	7th St Harbr	1.00	Trucks Inter	149.00	159.00	149	159	308	5.0
	Zone 17 Subtotal					149	159	308	5.0
18	Outer Harbor	1.00	Trucks Inter	172.00	183.00	172	183	355	5.8
	Zone 18 Subtotal					172	183	355	5.8
21	New Harbor	1.00	Truck External	476.00	508.00	476	508	984	15.9
	Zone 21 Subtotal					476	508	984	15.9
23	J.I.T.	1.00	Truck External	431.00	459.00	431	459	890	14.4
	Zone 23 Subtotal					431	459	890	14.4
26	Middle Harbr	1.00	Truck External	241.00	257.00	241	257	498	8.1
	Zone 26 Subtotal					241	257	498	8.1
27	7th St Harbr	1.00	Truck External	287.00	306.00	287	306	593	9.6
	Zone 27 Subtotal					287	306	593	9.6
28	Outer Harbor	1.00	Truck External	331.00	352.00	331	352	683	11.1

A-AM.CMD Tue Nov 5, 1996 13:15:11 Page 1-2

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					331	352	683	11.1
TOTAL						3361	2811	6172	100.0

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Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Turning Movement Report
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#3 Maritime St./ Burma St.													
Base	5	78	0	0	287	0	0	0	5	0	0	0	375
Added	0	253	0	0	385	180	109	0	0	0	0	0	928
Total	5	331	0	0	672	180	109	0	5	0	0	0	1303
#4 Maritime St./ 14th St.													
Base	0	91	39	103	261	0	0	0	0	22	0	87	603
Added	399	169	0	0	277	108	84	0	377	0	0	0	1414
Total	399	260	39	103	538	108	84	0	377	22	0	87	2017
#5 Maritime St./ 7th St. Extension													
Base	159	0	0	0	0	334	69	0	37	0	0	0	599
Added	910	337	0	0	383	271	231	0	829	0	0	0	2961
Total	1069	337	0	0	383	605	300	0	866	0	0	0	3560
#6 7th St./ 7th St. Extension													
Base	0	0	0	0	0	0	0	0	0	0	0	54	54
Added	0	0	0	625	0	586	533	306	0	0	367	715	3133
Total	0	0	0	625	0	586	533	306	0	0	367	769	3187
#7													
Base	53	0	45	0	0	0	0	0	39	208	338	0	683
Added	0	0	0	0	0	0	0	495	0	0	645	0	1140
Total	53	0	45	0	0	0	0	495	39	208	983	0	1823
#8 Adeline St./ 3rd St.													
Base	8	0	31	26	0	26	8	6	29	50	59	56	299
Added	0	778	0	0	1020	0	0	0	0	0	0	0	1798
Total	8	778	31	26	1020	26	8	6	29	50	59	56	2097
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	1	1
Added	17	0	332	0	0	0	0	508	3	361	593	0	1814
Total	17	0	332	0	0	0	0	508	3	361	593	1	1815
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	332	0	491	0	0	0	0	3	361	628	17	0	1833
Total	332	0	491	0	0	0	0	3	361	628	17	0	1833
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	33	0	16	28	47	48	394	438	0	300	9	1313
Added	298	0	65	0	0	0	0	0	483	82	0	0	928
Total	298	33	65	16	28	47	48	394	921	82	300	9	2241

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	72	109	165	256	51	0	0	169	364	1186
Added	195	150	433	0	203	0	0	0	264	554	0	0	1798
Total	195	150	433	72	312	165	256	51	264	554	169	364	2984
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	175	45	0	154	31	24	43	13	205	31	115	836
Added	0	0	264	0	0	0	0	0	0	195	0	0	459
Total	0	175	309	0	154	31	24	43	13	400	31	115	1295
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	548	21	17	0	94	0	16	0	0	62	1	759
Added	707	0	0	0	0	354	313	4	0	0	20	0	1400
Total	707	548	21	17	0	448	313	20	0	0	82	1	2159
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	0	65	0	0	65
Added	0	0	0	0	0	0	0	318	614	0	1082	0	2013
Total	0	0	0	0	0	0	0	318	614	65	1082	0	2078
#17 14th St./ I-880 Frontage Rd.													
Base	0	0	89	30	0	0	0	0	0	140	0	6	265
Added	0	313	0	0	354	0	0	0	0	0	0	0	668
Total	0	313	89	30	354	0	0	0	0	140	0	6	933
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	0	0	678	48	6	65	234	12	0	152	449	1653
Added	0	164	149	0	195	0	0	65	0	159	82	0	814
Total	9	164	149	678	243	6	65	299	12	159	234	449	2467
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	694	0	0	0	0	491	0	739	575	0	2499
Total	0	0	694	0	0	0	0	491	0	739	575	0	2499
#138													
Base	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
#158													
Base	0	-180	-129	0	0	0	0	0	0	0	0	0	-309
Added	0	210	118	0	0	0	0	0	0	0	0	0	327
Total	0	30	-11	0	0	0	0	0	0	0	0	0	18

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#159													
Base	-180	0	0	0	0	0	0	0	0	0	-178	0	-358
Added	210	0	0	0	0	0	0	0	0	0	173	0	382
Total	30	0	0	0	0	0	0	0	0	0	-5	0	24
#160													
Base	0	0	0	0	0	0	0	0	0	-178	-180	0	-358
Added	0	0	0	0	0	0	0	0	0	173	210	0	382
Total	0	0	0	0	0	0	0	0	0	-5	30	0	24
#161													
Base	0	0	0	0	-178	0	0	0	-286	0	0	0	-464
Added	0	0	0	0	173	0	0	0	363	0	0	0	535
Total	0	0	0	0	-5	0	0	0	77	0	0	0	71
#165													
Base	0	0	0	0	-227	0	0	0	-495	0	0	0	-722
Added	0	0	0	0	264	0	0	0	614	0	0	0	878
Total	0	0	0	0	37	0	0	0	119	0	0	0	156
#170													
Base	0	-153	-564	0	0	0	0	0	0	0	0	0	-717
Added	0	195	707	0	0	0	0	0	0	0	0	0	903
Total	0	42	143	0	0	0	0	0	0	0	0	0	186
#177													
Base	0	0	0	0	-351	0	0	-129	0	0	0	0	-480
Added	0	0	0	0	406	0	0	118	0	0	0	0	524
Total	0	0	0	0	55	0	0	-11	0	0	0	0	44
#178													
Base	0	-266	0	0	0	0	-104	-25	0	0	0	0	-395
Added	0	330	0	0	0	0	76	41	0	0	0	0	447
Total	0	64	0	0	0	0	-28	16	0	0	0	0	52
#182													
Base	0	-370	0	0	0	-475	0	0	0	0	0	0	-845
Added	0	406	0	0	0	504	0	0	0	0	0	0	910
Total	0	36	0	0	0	29	0	0	0	0	0	0	65
#201													
Base	0	0	0	0	0	0	0	-932	0	0	0	0	-932
Added	0	0	0	0	0	0	0	1047	0	0	0	0	1047
Total	0	0	0	0	0	0	0	115	0	0	0	0	115

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#204													
Base	0	0	0	-352	-580	0	0	0	0	0	0	0	-932
Added	0	0	0	392	655	0	0	0	0	0	0	0	1047
Total	0	0	0	40	75	0	0	0	0	0	0	0	115
#207													
Base	0	-714	0	0	0	0	0	0	0	0	0	-396	-1110
Added	0	831	0	0	0	0	0	0	0	0	0	430	1261
Total	0	117	0	0	0	0	0	0	0	0	0	34	151
#214													
Base	0	0	0	0	0	0	0	0	0	-546	-564	0	-1110
Added	0	0	0	0	0	0	0	0	0	554	707	0	1261
Total	0	0	0	0	0	0	0	0	0	8	143	0	151
#217													
Base	0	0	0	0	-45	0	0	-25	0	0	0	0	-70
Added	0	0	0	0	25	0	0	41	0	0	0	0	66
Total	0	0	0	0	-20	0	0	16	0	0	0	0	-4
#218													
Base	0	-21	0	0	0	0	-21	-4	0	0	0	0	-46
Added	0	9	0	0	0	0	37	4	0	0	0	0	50
Total	0	-12	0	0	0	0	16	-0	0	0	0	0	4
#219													
Base	0	-43	0	0	0	0	0	0	0	0	-20	0	-63
Added	0	46	0	0	0	0	0	0	0	0	20	0	67
Total	0	3	0	0	0	0	0	0	0	0	0	0	4
#220													
Base	0	0	0	0	-45	-34	0	0	0	0	-20	0	-99
Added	0	0	0	0	25	55	0	0	0	0	20	0	100
Total	0	0	0	0	-20	21	0	0	0	0	0	0	1
#225													
Base	0	0	0	0	0	0	0	0	0	0	-396	-20	-416
Added	0	0	0	0	0	0	0	0	0	0	430	20	451
Total	0	0	0	0	0	0	0	0	0	0	34	0	35
#226													
Base	0	0	0	-4	0	0	0	-352	0	0	0	0	-356
Added	0	0	0	4	0	0	0	392	0	0	0	0	396
Total	0	0	0	-0	0	0	0	40	0	0	0	0	40

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#244													
Base	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692

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Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Link Volume Report
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	83	292	375	287	78	365	5	5	10	0	0	0	750
Added	253	385	638	565	363	928	109	180	289	0	0	0	1855
Total	336	677	1013	852	441	1293	114	185	299	0	0	0	2605
#4 Maritime St./ 14th St.													
Base	130	283	413	364	178	542	0	0	0	109	142	251	1206
Added	569	654	1222	385	253	638	461	507	968	0	0	0	2829
Total	699	937	1635	749	431	1180	461	507	968	109	142	251	4035
#5 Maritime St./ 7th St. Extension													
Base	159	37	196	334	69	403	106	493	599	0	0	0	1198
Added	1248	1211	2459	654	569	1222	1060	1181	2241	0	0	0	5922
Total	1407	1248	2655	988	638	1625	1166	1674	2840	0	0	0	7120
#6 7th St./ 7th St. Extension													
Base	0	0	0	0	54	54	0	0	0	54	0	54	108
Added	0	0	0	1211	1248	2459	839	954	1793	1082	931	2013	6265
Total	0	0	0	1211	1302	2513	839	954	1793	1136	931	2067	6373
#7													
Base	98	247	345	0	0	0	39	391	430	546	45	591	1366
Added	0	0	0	0	0	0	495	645	1140	645	495	1140	2280
Total	98	247	345	0	0	0	534	1036	1570	1191	540	1731	3646
#8 Adeline St./ 3rd St.													
Base	39	79	118	52	64	116	43	93	136	165	63	228	598
Added	778	1020	1798	1020	778	1798	0	0	0	0	0	0	3596
Total	817	1099	1916	1072	842	1914	43	93	136	165	63	228	4194
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	1	1	0	0	0	1	0	1	2
Added	349	365	714	0	0	0	511	610	1121	954	839	1793	3628
Total	349	365	714	0	1	1	511	610	1121	955	839	1794	3630
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	823	989	1812	0	0	0	365	349	714	645	495	1140	3666
Total	823	989	1812	0	0	0	365	349	714	645	495	1140	3666
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	33	466	499	91	90	181	880	347	1227	309	410	719	2626
Added	363	565	928	0	0	0	483	298	781	82	65	147	1855
Total	396	1031	1427	91	90	181	1363	645	2008	391	475	866	4481

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	109	109	346	620	966	307	334	641	533	123	656	2372
Added	778	1020	1798	203	150	352	264	195	459	554	433	987	3596
Total	778	1129	1907	549	770	1318	571	529	1100	1087	556	1643	5968
#14 Union St./ 5th St./ I-880 North Ramps													
Base	220	372	592	185	314	499	80	62	142	351	88	439	1672
Added	264	195	459	0	0	0	0	0	0	195	264	459	918
Total	484	567	1051	185	314	499	80	62	142	546	352	898	2590
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	569	0	569	111	549	660	16	156	172	63	54	117	1518
Added	707	0	707	354	313	668	318	1082	1400	20	4	25	2799
Total	1276	0	1276	465	862	1328	334	1238	1572	83	58	142	4317
#16 7th St./ I-880 SB Ramps													
Base	0	65	65	0	0	0	0	0	0	65	0	65	130
Added	0	614	614	0	0	0	931	1082	2013	1082	318	1400	4027
Total	0	679	679	0	0	0	931	1082	2013	1147	318	1465	4157
#17 14th St./ I-880 Frontage Rd.													
Base	89	140	229	30	6	36	0	0	0	146	119	265	530
Added	313	354	668	354	313	668	0	0	0	0	0	0	1335
Total	402	494	897	384	319	704	0	0	0	146	119	265	1865
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	60	69	732	514	1246	311	167	478	601	912	1513	3306
Added	313	354	668	195	164	359	65	82	147	241	214	455	1629
Total	322	414	737	927	678	1605	376	249	625	842	1126	1968	4935
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	694	739	1433	0	0	0	491	575	1066	1314	1185	2499	4998
Total	694	739	1433	0	0	0	491	575	1066	1314	1185	2499	4998
#138													
Base	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
#158													
Base	-309	0	-309	0	-180	-180	0	0	0	0	-129	-129	-618
Added	327	0	327	0	210	210	0	0	0	0	118	118	654
Total	18	0	18	0	30	30	0	0	0	0	-11	-11	36

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#159													
Base	-180	0	-180	0	0	0	0	-358	-358	-178	0	-178	-716
Added	210	0	210	0	0	0	0	382	382	173	0	173	764
Total	30	0	30	0	0	0	0	24	24	-5	0	-5	48
#160													
Base	0	-178	-178	0	0	0	0	-180	-180	-358	0	-358	-716
Added	0	173	173	0	0	0	0	210	210	382	0	382	764
Total	0	-5	-5	0	0	0	0	30	30	24	0	24	48
#161													
Base	0	-464	-464	-178	0	-178	-286	0	-286	0	0	0	-928
Added	0	535	535	173	0	173	363	0	363	0	0	0	1071
Total	0	71	71	-5	0	-5	77	0	77	0	0	0	143
#165													
Base	0	-722	-722	-227	0	-227	-495	0	-495	0	0	0	-1444
Added	0	878	878	264	0	264	614	0	614	0	0	0	1755
Total	0	156	156	37	0	37	119	0	119	0	0	0	311
#170													
Base	-717	0	-717	0	-153	-153	0	0	0	0	-564	-564	-1434
Added	903	0	903	0	195	195	0	0	0	0	707	707	1805
Total	186	0	186	0	42	42	0	0	0	0	143	143	371
#177													
Base	0	-351	-351	-351	0	-351	-129	0	-129	0	-129	-129	-960
Added	0	406	406	406	0	406	118	0	118	0	118	118	1048
Total	0	55	55	55	0	55	-11	0	-11	0	-11	-11	88
#178													
Base	-266	0	-266	0	-370	-370	-129	0	-129	0	-25	-25	-790
Added	330	0	330	0	406	406	118	0	118	0	41	41	895
Total	64	0	64	0	36	36	-11	0	-11	0	16	16	105
#182													
Base	-370	0	-370	-475	-370	-845	0	-475	-475	0	0	0	-1690
Added	406	0	406	504	406	910	0	504	504	0	0	0	1820
Total	36	0	36	29	36	65	0	29	29	0	0	0	130
#201													
Base	0	0	0	0	0	0	-932	0	-932	0	-932	-932	-1864
Added	0	0	0	0	0	0	1047	0	1047	0	1047	1047	2093
Total	0	0	0	0	0	0	115	0	115	0	115	115	229

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#204													
Base	0	-580	-580	-932	0	-932	0	0	0	0	-352	-352	-1864
Added	0	655	655	1047	0	1047	0	0	0	0	392	392	2093
Total	0	75	75	115	0	115	0	0	0	0	40	40	229
#207													
Base	-714	0	-714	0	-1110	-1110	0	0	0	-396	0	-396	-222
Added	831	0	831	0	1261	1261	0	0	0	430	0	430	2523
Total	117	0	117	0	151	151	0	0	0	34	0	34	303
#214													
Base	0	-546	-546	0	0	0	0	-564	-564	-1110	0	-1110	-2220
Added	0	554	554	0	0	0	0	707	707	1261	0	1261	2523
Total	0	8	8	0	0	0	0	143	143	151	0	151	303
#217													
Base	0	-45	-45	-45	0	-45	-25	0	-25	0	-25	-25	-140
Added	0	25	25	25	0	25	41	0	41	0	41	41	132
Total	0	-20	-20	-20	0	-20	16	0	16	0	16	16	-8
#218													
Base	-21	0	-21	0	-42	-42	-25	0	-25	0	-4	-4	-92
Added	9	0	9	0	46	46	41	0	41	0	4	4	100
Total	-12	0	-12	0	4	4	16	0	16	0	-0	-0	8
#219													
Base	-43	0	-43	0	-43	-43	0	-20	-20	-20	0	-20	-126
Added	46	0	46	0	46	46	0	20	20	20	0	20	133
Total	3	0	3	0	3	3	0	0	0	0	0	0	7
#220													
Base	0	-45	-45	-79	0	-79	0	-54	-54	-20	0	-20	-198
Added	0	25	25	80	0	80	0	75	75	20	0	20	200
Total	0	-20	-20	1	0	1	0	21	21	0	0	0	2
#225													
Base	0	0	0	0	-20	-20	0	-396	-396	-416	0	-416	-832
Added	0	0	0	0	20	20	0	430	430	451	0	451	901
Total	0	0	0	0	0	0	0	34	34	35	0	35	69
#226													
Base	0	0	0	-4	0	-4	-352	0	-352	0	-356	-356	-712
Added	0	0	0	4	0	4	392	0	392	0	396	396	791
Total	0	0	0	-0	0	-0	40	0	40	0	40	40	79

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#244													
Base	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 3 Maritime St./ Burma St.	B	6.3	0.089	B	8.5	0.267	+ 2.149 D/V
# 4 Maritime St./ 14th St.	C	15.0	0.161	C	20.5	0.803	+ 5.425 D/V
# 5 Maritime St./ 7th St. Extensio	B	12.7	0.071	C	17.5	0.897	+ 4.837 D/V
# 6 7th St./ 7th St. Extension	B	11.8	0.000	B	14.6	0.770	+ 2.773 D/V
# 8 Adeline St./ 3rd St.	B	8.7	0.064	F	72.1	0.660	+63.421 D/V
# 9 7th/Middle Harbor Rd	C	15.8	0.000	C	15.9	0.594	+ 0.098 D/V
# 10 New Harbor/Mid Harbor Rd		0.0	0.000	C	20.9	0.821	+20.851 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.0	0.242	C	16.6	0.526	+ 4.653 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	18.3	0.236	C	23.6	0.819	+ 5.311 D/V
# 14 Union St./ 5th St./ I-880 Nort	C	16.4	0.104	C	17.6	0.392	+ 1.186 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	13.0	0.366	C	21.3	0.565	+ 8.382 D/V
# 16 7th St./ I-880 SB Ramps	A	0.1	0.020	A	1.4	0.420	+ 1.324 D/V
# 17 14th St./ I-880 Frontage Rd.	A	2.8	0.000	C	3.0	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	19.9	0.237	C	21.3	0.457	+ 1.477 D/V

Table J7-3 (Continued)

```
A-AM.CMD                  Tue Nov 5, 1996 13:15:11                   Page 6-1
------------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Maximum Rail Alternative
                             AM Peak Hour
------------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
******************************************************************************
Intersection #3 Maritime St./ Burma St.
******************************************************************************
Cycle (sec):        100            Critical Vol./Cap. (X):         0.267
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      8.5
Optimal Cycle:       58            Level Of Service:                  B
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20    20   10   20    20   10   20    20    0    0     0
Lanes:        1  0  1  1  0   1  0  1  1  0    1  0  0  1  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        5   78     0    0  287     0    0    0     5    0    0     0
Growth Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:     5   78     0    0  287     0    0    0     5    0    0     0
Added Vol:       0  253     0    0  385   180  109    0     0    0    0     0
PasserByVol:     0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:     5  331     0    0  672   180  109    0     5    0    0     0
User Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:      5  331     0    0  672   180  109    0     5    0    0     0
Reduct Vol:      0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:     5  331     0    0  672   180  109    0     5    0    0     0
PCE Adj:      1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:      1.00 1.05  1.05 1.00 1.05  1.05 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:      5  348     0    0  706   189  109    0     5    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:   0.95 1.00  1.00 1.00 0.97  0.97 0.95 1.00  0.85 1.00 1.00  1.00
Lanes:        1.00 2.00  0.00 1.00 1.58  0.42 1.00 0.00  1.00 0.00 0.00  0.00
Final Sat.:   1805 3800     0 1900 2908   778 1805    0  1615    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.00 0.09  0.00 0.00 0.24  0.24 0.06 0.00  0.00 0.00 0.00  0.00
Crit Moves:   ****                  ****              ****
Green/Cycle:  0.10 0.48  0.00 0.00 0.62  0.62 0.20 0.00  0.20 0.00 0.00  0.00
Volume/Cap:   0.03 0.19  0.00 0.00 0.39  0.39 0.30 0.00  0.02 0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    26.2  9.6   0.0  0.0  6.2   6.2 22.2  0.0  20.7  0.0  0.0   0.0
User DelAdj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   26.2  9.6   0.0  0.0  6.2   6.2 22.2  0.0  20.7  0.0  0.0   0.0
Queue:           0    6     0    0   10     3    3    0     0    0    0     0
******************************************************************************

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A-AM.CMD                  Tue Nov 5, 1996 13:15:11                   Page 7-1
------------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Maximum Rail Alternative
                             AM Peak Hour
------------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
******************************************************************************
Intersection #4 Maritime St./ 14th St.
******************************************************************************
Cycle (sec):        100            Critical Vol./Cap. (X):         0.803
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):     20.5
Optimal Cycle:       66            Level Of Service:                  C
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Permitted        Permitted
Rights:          Include          Include            Ovl            Include
Min. Green:    10   20    20   10   20    20   10   20    20   10   20    20
Lanes:        1  0  1  1  0   1  0  1  1  0    0  0  1! 0  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   91    39  103  261     0    0    0     0   22    0    87
Growth Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:     0   91    39  103  261     0    0    0     0   22    0    87
Added Vol:     399  169     0    0  277   108   84    0   377    0    0     0
PasserByVol:     0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   399  260    39  103  538   108   84    0   377   22    0    87
User Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    399  260    39  103  538   108   84    0   377   22    0    87
Reduct Vol:      0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   399  260    39  103  538   108   84    0   377   22    0    87
PCE Adj:      1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:      1.00 1.05  1.05 1.00 1.05  1.05 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:    399  273    41  103  565   113   84    0   377   22    0    87
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:   0.95 0.98  0.98 0.95 0.97  0.97 0.73 1.00  0.73 0.57 1.00  0.85
Lanes:        1.00 1.74  0.26 1.00 1.67  0.33 0.18 0.00  0.82 1.00 0.00  1.00
Final Sat.:   1805 3238   486 1805 3072   614  252    0  1129 1083    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.22 0.08  0.08 0.06 0.18  0.18 0.33 0.00  0.33 0.02 0.00  0.05
Crit Moves:   ****                  ****        ****
Green/Cycle:  0.28 0.34  0.34 0.17 0.23  0.23 0.42 0.00  0.69 0.42 0.00  0.42
Volume/Cap:   0.80 0.25  0.25 0.34 0.80  0.80 0.80 0.00  0.48 0.05 0.00  0.13
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    28.2 15.6  15.6 24.0 27.5  27.5 22.2  0.0   4.9 11.3  0.0  11.7
User DelAdj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   28.2 15.6  15.6 24.0 27.5  27.5 22.2  0.0   4.9 11.3  0.0  11.7
Queue:          11    6     1    3   16     4    3    0     5    0    0     1
******************************************************************************

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Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.897
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	17.5
Optimal Cycle:	98	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0 2 0 0			0 0 2 0 1			2 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	159	0	0	0	0	334	69	0	37	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	159	0	0	0	0	334	69	0	37	0	0	0
Added Vol:	910	337	0	0	383	271	231	0	829	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1069	337	0	0	383	605	300	0	866	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1069	337	0	0	383	605	300	0	866	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1069	337	0	0	383	605	300	0	866	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	1101	354	0	0	402	605	309	0	866	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.30	0.09	0.00	0.00	0.11	0.37	0.09	0.00	0.54	0.00	0.00	0.00
Crit Moves:	****					****			****			
Green/Cycle:	0.35	0.66	0.00	0.00	0.31	0.57	0.26	0.00	0.61	0.00	0.00	0.00
Volume/Cap:	0.88	0.14	0.00	0.00	0.34	0.65	0.33	0.00	0.88	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	25.3	4.2	0.0	0.0	17.2	10.5	19.3	0.0	17.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.3	4.2	0.0	0.0	17.2	10.5	19.3	0.0	17.4	0.0	0.0	0.0
Queue:	31	4	0	0	9	12	7	0	23	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.770
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	14.6
Optimal Cycle:	59	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	10	0	20	10	20	20	0	20	20
Lanes:	0 0 0 0 0			2 0 0 0 1			2 0 2 0 0			0 0 1 1 1		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	54
Added Vol:	0	0	0	625	0	586	533	306	0	0	367	715
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	625	0	586	533	306	0	0	367	769
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	625	0	586	533	306	0	0	367	769
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	625	0	586	533	306	0	0	367	769
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.03	1.05	1.00	1.00	1.00	1.05
Final Vol.:	0	0	0	644	0	586	549	322	0	0	367	807
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	1.00	2.00
Final Sat.:	0	0	0	3610	0	1615	3610	3800	0	0	1900	3230
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.36	0.15	0.08	0.00	0.00	0.19	0.25
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.20	0.45	0.00	0.00	0.25	0.72
Volume/Cap:	0.00	0.00	0.00	0.38	0.00	0.77	0.77	0.19	0.00	0.00	0.77	0.35
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	11.1	0.0	17.5	28.1	10.7	0.0	0.0	24.2	3.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.1	0.0	17.5	28.1	10.7	0.0	0.0	24.2	3.3
Queue:	0	0	0	12	0	14	15	5	0	0	10	8

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.660
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 72.1
Optimal Cycle: 92 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0 1	0	0 1	0 1	0	0 1	0 1	0	0 1	0 1	0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	778	0	0	1020	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	778	31	26	1020	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	778	31	26	1020	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	778	31	26	1020	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.05
Final Vol.:	8	817	33	27	1071	27	8	6	29	53	62	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.85	0.94	0.94	0.94
Lanes:	0.02	1.90	0.08	0.05	1.90	0.05	0.57	0.43	1.00	0.61	0.71	0.68
Final Sat.:	35	3582	145	91	3618	91	1053	790	1615	1089	1273	1212
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.30	0.30	0.30	0.01	0.01	0.02	0.05	0.05	0.05
Crit Moves:			****		****			****			****	
Green/Cycle:	0.21	0.21	0.21	0.27	0.27	0.27	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.09	1.09	1.09	1.09	1.09	1.09	0.04	0.04	0.09	0.24	0.24	0.24
Level Of Service Module:												
Delay/Veh:	80.6	80.6	80.6	75.4	75.4	75.4	20.8	20.8	21.1	21.8	21.8	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.6	80.6	80.6	75.4	75.4	75.4	20.8	20.8	21.1	21.8	21.8	21.8
Queue:	1	38	3	3	49	3	0	0	1	1	1	1

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/Middle Harbor Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.594
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 15.9
Optimal Cycle: 58 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	1
Added Vol:	17	0	332	0	0	0	0	508	3	361	593	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	0	332	0	0	0	0	508	3	361	593	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	0	332	0	0	0	0	508	3	361	593	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	0	332	0	0	0	0	508	3	361	593	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	17	0	332	0	0	0	0	533	4	361	622	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.99	0.01	1.00	1.99	0.01
Final Sat.:	1805	0	1615	0	0	0	0	3772	28	1805	3794	6
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.21	0.00	0.00	0.00	0.00	0.14	0.14	0.20	0.16	0.16
Crit Moves:			****					****		****		
Green/Cycle:	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.24	0.24	0.34	0.57	0.57
Volume/Cap:	0.03	0.00	0.59	0.00	0.00	0.00	0.00	0.59	0.59	0.59	0.29	0.29
Level Of Service Module:												
Delay/Veh:	14.0	0.0	18.7	0.0	0.0	0.0	0.0	22.6	22.6	18.9	7.0	7.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.0	0.0	18.7	0.0	0.0	0.0	0.0	22.6	22.6	18.9	7.0	7.0
Queue:	0	0	8	0	0	0	0	13	0	9	9	0

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #10 New Harbor/Mid Harbor Rd

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.821
Loss Time (sec): 8 (Y+R = 4 sec) — Average Delay (sec/veh): 20.9
Optimal Cycle: 70 — Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	332	0	491	0	0	0	0	3	361	628	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	332	0	491	0	0	0	0	3	361	628	17	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	332	0	491	0	0	0	0	3	361	628	17	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	332	0	491	0	0	0	0	3	361	628	17	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00
Final Vol.:	332	0	491	0	0	0	0	3	361	628	18	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	1900	1615	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.18	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.22	0.35	0.00	0.00
Crit Moves:	****								****	****		
Green/Cycle:	0.22	0.00	0.65	0.00	0.00	0.00	0.00	0.27	0.27	0.42	0.70	0.00
Volume/Cap:	0.82	0.00	0.47	0.00	0.00	0.00	0.00	0.01	0.82	0.82	0.01	0.00
Level Of Service Module:												
Delay/Veh:	32.6	0.0	6.0	0.0	0.0	0.0	0.0	17.1	30.1	21.4	3.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	0.0	6.0	0.0	0.0	0.0	0.0	17.1	30.1	21.4	3.0	0.0
Queue:	10	0	7	0	0	0	0	0	11	17	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.526
Loss Time (sec): 10 (Y+R = 4 sec) — Average Delay (sec/veh): 16.6
Optimal Cycle: 70 — Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	2 0 0 1 0			1 0 0 1 0			1 0 1 1 1			1 0 1 1 0		
Volume Module:												
Base Vol:	0	33	0	16	28	47	48	394	438	0	300	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	33	0	16	28	47	48	394	438	0	300	9
Added Vol:	298	0	65	0	0	0	0	0	483	82	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	298	33	65	16	28	47	48	394	921	82	300	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	298	33	65	16	28	47	48	394	921	82	300	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	298	33	65	16	28	47	48	394	921	82	300	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.05	1.05
Final Vol.:	307	33	65	16	28	47	48	394	967	82	315	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.91	0.91	0.95	1.00	0.85	0.95	1.00	1.00
Lanes:	2.00	0.34	0.66	1.00	0.37	0.63	1.00	1.00	2.00	1.00	1.94	0.06
Final Sat.:	3610	576	1134	1805	645	1084	1805	1900	3230	1805	3694	106
Capacity Analysis Module:												
Vol/Sat:	0.09	0.06	0.06	0.01	0.04	0.04	0.03	0.21	0.30	0.05	0.09	0.09
Crit Moves:	****				****				****	****		
Green/Cycle:	0.13	0.22	0.22	0.11	0.20	0.20	0.19	0.47	0.47	0.10	0.38	0.38
Volume/Cap:	0.64	0.26	0.26	0.08	0.22	0.22	0.14	0.44	0.64	0.45	0.23	0.23
Level Of Service Module:												
Delay/Veh:	28.6	20.8	20.8	25.8	21.7	21.7	21.8	11.6	13.6	28.7	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	20.8	20.8	25.8	21.7	21.7	21.8	11.6	13.6	28.7	13.7	13.7
Queue:	8	1	2	0	1	1	1	7	21	2	6	0

Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec):	100	Critical Vol./Cap. (X):	0.819
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	23.6
Optimal Cycle:	82	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	10	20	10	20	20
Lanes:	1 0 1 1 0			1 0 1 1 0			1 1 0 1 0			1 0 0 1 1		
Volume Module:												
Base Vol:	0	0	0	72	109	165	256	51	0	0	169	364
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	72	109	165	256	51	0	0	169	364
Added Vol:	195	150	433	0	203	0	0	0	264	554	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	195	150	433	72	312	165	256	51	264	554	169	364
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	195	150	433	72	312	165	256	51	264	554	169	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	195	150	433	72	312	165	256	51	264	554	169	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.05	1.10	1.10	1.10	1.00	1.05	1.05
Final Vol.:	195	150	433	72	327	173	282	56	290	554	177	191
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.95	0.91	0.91	0.91	0.95	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.31	0.69	1.67	0.33	1.00	1.00	0.96	1.04
Final Sat.:	1805	1900	1615	1805	2361	1249	2890	574	1732	1805	1682	1815
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.27	0.04	0.14	0.14	0.10	0.10	0.17	0.31	0.11	0.11
Crit Moves:	****				****				****	****		
Green/Cycle:	0.12	0.22	0.58	0.10	0.20	0.20	0.20	0.20	0.20	0.36	0.36	0.36
Volume/Cap:	0.86	0.35	0.46	0.40	0.69	0.69	0.49	0.49	0.84	0.86	0.30	0.30
Level Of Service Module:												
Delay/Veh:	46.7	21.1	8.0	28.0	26.0	26.0	23.2	23.2	30.6	27.7	15.1	15.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.7	21.1	8.0	28.0	26.0	26.0	23.2	23.2	30.6	27.7	15.1	15.1
Queue:	7	4	7	2	9	5	7	1	9	16	4	4

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.392
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	17.6
Optimal Cycle:	71	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0 1 1 1			0 0 1 1 0			0 1 0 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	0	175	45	0	154	31	24	43	13	205	31	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	175	45	0	154	31	24	43	13	205	31	115
Added Vol:	0	0	264	0	0	0	0	0	0	195	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	175	309	0	154	31	24	43	13	400	31	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	175	309	0	154	31	24	43	13	400	31	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	175	309	0	154	31	24	43	13	400	31	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	193	340	0	162	33	25	45	14	400	31	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.90	0.90	1.00	0.97	0.97	0.96	0.96	0.96	0.95	1.00	0.85
Lanes:	0.00	1.09	1.91	0.00	1.66	0.34	0.60	1.07	0.33	1.00	1.00	1.00
Final Sat.:	0	1858	3272	0	3062	624	1086	1955	608	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.10	0.00	0.05	0.05	0.02	0.02	0.02	0.22	0.02	0.07
Crit Moves:		****		****				****		****		
Green/Cycle:	0.00	0.22	0.22	0.00	0.22	0.22	0.20	0.20	0.20	0.47	0.47	0.47
Volume/Cap:	0.00	0.47	0.47	0.00	0.24	0.24	0.12	0.12	0.12	0.47	0.03	0.15
Level Of Service Module:												
Delay/Veh:	0.0	22.2	22.2	0.0	20.8	20.8	21.2	21.2	21.2	12.0	9.2	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	22.2	22.2	0.0	20.8	20.8	21.2	21.2	21.2	12.0	9.2	9.8
Queue:	0	5	8	0	4	1	1	1	0	8	0	2

Table J7-3 (Continued)

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A-AM.CMD                 Tue Nov 5, 1996 13:15:11                 Page 16-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Maximum Rail Alternative
                             AM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.565
Loss Time (sec):     10 (Y+R =  4 sec) Average Delay (sec/veh):      21.3
Optimal Cycle:       70              Level Of Service:                 C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:         Include            Ovl            Include          Include
Min. Green:   10   20    20    10   20    20    10   20    20     0   20    20
Lanes:        2  0  0  1  0    1  0  0  0  2    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  548    21    17    0    94     0   16     0     0   62     1
Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0  548    21    17    0    94     0   16     0     0   62     1
Added Vol:   707    0     0     0    0   354   313    4     0     0   20     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut: 707  548    21    17    0   448   313   20     0     0   82     1
User Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  707  548    21    17    0   448   313   20     0     0   82     1
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 707  548    21    17    0   448   313   20     0     0   82     1
PCE Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:    1.03 1.00  1.00  1.00 1.00  1.13  1.00 1.05  1.00  1.00 1.05  1.05
Final Vol.:  729  548    21    17    0   507   313   22     0     0   86     1
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment: 0.95 0.99  0.99  0.95 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00
Lanes:      2.00 0.96  0.04  1.00 0.00  2.00  1.00 2.00  0.00  0.00 1.98  0.02
Final Sat.: 3610 1812    69  1805    0  3230  1805 3800     0     0 3756    44
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.20 0.30  0.30  0.01 0.00  0.16  0.17 0.01  0.00  0.00 0.02  0.02
Crit Moves:      ****        ****             ****                  ****
Green/Cycle: 0.28 0.38  0.38  0.10 0.00  0.42  0.22 0.42  0.00  0.00 0.20  0.20
Volume/Cap: 0.72 0.79  0.79  0.09 0.00  0.37  0.79 0.01  0.00  0.00 0.11  0.11
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:  22.6 22.0  22.0  26.4  0.0  13.0  31.1 11.0   0.0   0.0 21.2  21.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 22.6 22.0  22.0  26.4  0.0  13.0  31.1 11.0   0.0   0.0 21.2  21.2
Queue:        19   15     1     0    0    10     9    0     0     0    2     0
*****************************************************************************

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A-AM.CMD                 Tue Nov 5, 1996 13:15:11                 Page 17-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Maximum Rail Alternative
                             AM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #16 7th St./ I-880 SB Ramps
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.420
Loss Time (sec):      5 (Y+R =  4 sec) Average Delay (sec/veh):       1.4
Optimal Cycle:       35              Level Of Service:                 A
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:         Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0   20    20    10   20    20
Lanes:        0  0  0  0  0    0  0  0  0  0    0  0  2  0  1    2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0     0    0     0     0    0     0    65    0     0
Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0    0     0     0    0     0     0    0     0    65    0     0
Added Vol:     0    0     0     0    0     0     0  318   614     0 1082     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0    0     0     0    0     0     0  318   614    65 1082     0
User Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0    0     0     0    0     0     0  318   614    65 1082     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0    0     0     0    0     0     0  318   614    65 1082     0
PCE Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.00  1.03 1.05  1.00
Final Vol.:    0    0     0     0    0     0     0  333   614    67 1136     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.85  0.95 1.00  1.00
Lanes:      0.00 0.00  0.00  0.00 0.00  0.00  0.00 2.00  1.00  2.00 2.00  0.00
Final Sat.:    0    0     0     0    0     0     0 3800  1615  3610 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.09  0.38  0.02 0.30  0.00
Crit Moves:                                               ****  ****
Green/Cycle: 0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.85  0.85  0.10 0.95  0.00
Volume/Cap: 0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.10  0.45  0.19 0.31  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.8   1.3  26.7  0.1   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.8   1.3  26.7  0.1   0.0
Queue:         0    0     0     0    0     0     0    2     4     2    2     0
*****************************************************************************

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Table J7-3 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #17 14th St./ I-880 Frontage Rd.

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1 1	0	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	0	89	30	0	0	0	0	0	140	0	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	89	30	0	0	0	0	0	140	0	6
Added Vol:	0	313	0	0	354	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	313	89	30	354	0	0	0	0	140	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	313	89	30	354	0	0	0	0	140	0	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	313	89	30	354	0	0	0	0	140	0	6
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	313	89	33	354	0	0	0	0	154	0	7
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6
Critical Gp:	xxxxx	xxxx	xxxxx	5.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.0	xxxx	5.5
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	402	xxxx	xxxxx	xxxx	xxxx	xxxxx	742	xxxx	201
Potent Cap.:	xxxx	xxxx	xxxxx	1043	xxxx	xxxxx	xxxx	xxxx	xxxxx	355	xxxx	1095
Adj Cap:	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.97	xxxx	1.00
Move Cap.:	xxxx	xxxx	xxxxx	1043	xxxx	xxxxx	xxxx	xxxx	xxxxx	344	xxxx	1095
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	3.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	17.6	xxxx	3.3
LOS by Move:	*	*	*	A	*	*	*	*	*	C	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		0.0			0.3			0.0			17.0	

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FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #18 W.Grand Ave./ I-880 Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.457
Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
Optimal Cycle: 81 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0	1 1	0	1 1	0 1	0	1 0	1 1	0	1 0	1 1	1
Volume Module:												
Base Vol:	9	0	0	678	48	6	65	234	12	0	152	449
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	0	0	678	48	6	65	234	12	0	152	449
Added Vol:	0	164	149	0	195	0	0	65	0	159	82	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	164	149	678	243	6	65	299	12	159	234	449
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	164	149	678	243	6	65	299	12	159	234	449
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	164	149	678	243	6	65	299	12	159	234	449
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.00	1.10	1.10
Final Vol.:	9	172	157	712	243	6	65	314	13	159	257	494
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	1.00	1.00	0.95	0.99	0.99	0.95	0.90	0.90
Lanes:	1.00	1.05	0.95	2.00	0.98	0.02	1.00	1.92	0.08	1.00	1.03	1.97
Final Sat.:	1805	1848	1686	3610	1854	46	1805	3612	150	1805	1756	3374
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.09	0.20	0.13	0.13	0.04	0.09	0.09	0.09	0.15	0.15
Crit Moves:		****			****		****				****	
Green/Cycle:	0.20	0.20	0.20	0.34	0.34	0.34	0.10	0.23	0.23	0.12	0.25	0.25
Volume/Cap:	0.02	0.47	0.47	0.58	0.39	0.39	0.36	0.37	0.37	0.75	0.58	0.58
Level Of Service Module:												
Delay/Veh:	20.8	23.2	23.2	18.0	16.3	16.3	27.7	20.9	20.9	37.0	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.8	23.2	23.2	18.0	16.3	16.3	27.7	20.9	20.9	37.0	21.7	21.7
Queue:	0	4	4	17	5	0	2	7	0	5	6	12

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Table J.7-4

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FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	1018.00	Employees	0.06	0.22	61	224	285	5.2
	Zone 1 Subtotal					61	224	285	5.2
3	J.I.T.	360.00	Employees	0.10	0.36	36	130	166	3.0
	Zone 3 Subtotal					36	130	166	3.0
6	Middle Harbr	516.00	Employees	0.06	0.22	31	114	145	2.7
	Zone 6 Subtotal					31	114	145	2.7
7	7th St Harbr	613.00	Employees	0.06	0.22	37	135	172	3.1
	Zone 7 Subtotal					37	135	172	3.1
8	Outer Harbor	706.00	Employees	0.06	0.21	42	148	190	3.5
	Zone 8 Subtotal					42	148	190	3.5
10	New Park	1.00	Total Trips	33.00	40.00	33	40	73	1.3
	Zone 10 Subtotal					33	40	73	1.3
11	New Harbor	1.00	Trucks Inter	203.00	243.00	203	243	446	8.2
	Zone 11 Subtotal					203	243	446	8.2
16	Middle Harbr	1.00	Trucks Inter	103.00	123.00	103	123	226	4.1
	Zone 16 Subtotal					103	123	226	4.1
17	7th St Harbr	1.00	Trucks Inter	122.00	147.00	122	147	269	4.9
	Zone 17 Subtotal					122	147	269	4.9
18	Outer Harbor	1.00	Trucks Inter	141.00	169.00	141	169	310	5.7
	Zone 18 Subtotal					141	169	310	5.7
21	New Harbor	1.00	Truck External	391.00	468.00	391	468	859	15.7
	Zone 21 Subtotal					391	468	859	15.7
23	J.I.T.	1.00	Truck External	353.00	423.00	353	423	776	14.2
	Zone 23 Subtotal					353	423	776	14.2
26	Middle Harbr	1.00	Truck External	198.00	237.00	198	237	435	8.0
	Zone 26 Subtotal					198	237	435	8.0
27	7th St Harbr	1.00	Truck External	235.00	282.00	235	282	517	9.5
	Zone 27 Subtotal					235	282	517	9.5
28	Outer Harbor	1.00	Truck External	271.00	325.00	271	325	596	10.9

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FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					271	325	596	10.9
TOTAL						2257	3208	5465	100.0

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Turning Movement Report
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime St./ Burma St.													
Base	5	590	0	0	109	0	0	0	50	0	0	0	754
Added	0	354	0	0	210	92	160	0	0	0	0	0	816
Total	5	944	0	0	319	92	160	0	50	0	0	0	1570
#4 Maritime St./ 14th St.													
Base	0	414	28	105	132	0	0	0	0	92	0	290	1061
Added	295	255	0	0	142	68	100	0	382	0	0	0	1241
Total	295	669	28	105	274	68	100	0	382	92	0	290	2302
#5 Maritime St./ 7th St. Extension													
Base	36	0	0	0	0	75	223	0	74	0	0	0	408
Added	730	325	0	0	307	218	224	0	795	0	0	0	2599
Total	766	325	0	0	307	293	447	0	869	0	0	0	3007
#6 7th St./ 7th St. Extension													
Base	0	0	0	31	0	0	0	0	0	0	0	0	31
Added	0	0	0	683	0	418	562	373	0	0	265	494	2795
Total	0	0	0	714	0	418	562	373	0	0	265	494	2826
#7													
Base	95	0	229	0	0	0	0	215	131	94	88	0	852
Added	0	0	0	0	0	0	0	604	0	0	399	0	1003
Total	95	0	229	0	0	0	0	819	131	94	487	0	1855
#8 Adeline St./ 3rd St.													
Base	36	0	122	43	0	15	30	14	13	89	39	78	479
Added	0	955	0	0	628	0	0	0	0	0	0	0	1583
Total	36	955	122	43	628	15	30	14	13	89	39	78	2062
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	1	1
Added	4	0	346	0	0	0	0	589	15	260	423	0	1637
Total	4	0	346	0	0	0	0	589	15	260	423	1	1638
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	346	0	589	0	0	0	0	15	260	395	4	0	1609
Total	346	0	589	0	0	0	0	15	260	395	4	0	1609
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	23	0	9	23	23	20	454	210	0	624	13	1399
Added	438	0	76	0	0	0	0	0	250	52	0	0	816
Total	438	23	76	9	23	23	20	454	460	52	624	13	2215

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	241	0	69	138	157	0	0	202	616	1423
Added	246	189	520	0	122	0	0	0	158	348	0	0	1583
Total	246	189	520	241	122	69	138	157	158	348	202	616	3006
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	194	281	0	144	30	31	97	18	32	31	34	892
Added	0	0	158	0	0	0	0	0	0	246	0	0	404
Total	0	194	439	0	144	30	31	97	18	278	31	34	1296
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	197	3	2	0	205	0	108	0	0	53	1	569
Added	485	0	0	0	0	268	365	18	0	0	5	0	1141
Total	485	197	3	2	0	473	365	126	0	0	58	1	1710
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	7	378	0	0	385
Added	0	0	0	0	0	0	0	383	674	0	758	0	1815
Total	0	0	0	0	0	0	0	383	681	378	758	0	2200
#17 14th St./ I-880 Frontage Rd.													
Base	0	62	130	4	0	0	0	0	0	115	0	7	318
Added	0	365	0	0	268	0	0	0	0	0	0	0	633
Total	0	427	130	4	268	0	0	0	0	115	0	7	951
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	75	72	0	759	0	6	86	277	3	0	456	330	2064
Added	0	186	179	0	130	0	0	76	0	138	52	0	761
Total	75	258	179	759	130	6	86	353	3	138	508	330	2825
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	569	0	0	0	0	553	0	682	389	0	2193
Total	0	0	569	0	0	0	0	553	0	682	389	0	2193
#138													
Base	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
#158													
Base	0	-259	-163	0	0	0	0	0	0	0	0	0	-422
Added	0	329	157	0	0	0	0	0	0	0	0	0	486
Total	0	70	-6	0	0	0	0	0	0	0	0	0	64

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#159													
Base	-259	0	0	0	0	0	0	0	0	0	-105	0	-364
Added	329	0	0	0	0	0	0	0	0	0	97	0	426
Total	70	0	0	0	0	0	0	0	0	0	-8	0	62
#160													
Base	0	0	0	0	0	0	0	0	0	-105	-259	0	-364
Added	0	0	0	0	0	0	0	0	0	97	329	0	426
Total	0	0	0	0	0	0	0	0	0	-8	70	0	62
#161													
Base	0	0	0	0	-105	0	0	0	-150	0	0	0	-255
Added	0	0	0	0	97	0	0	0	178	0	0	0	275
Total	0	0	0	0	-8	0	0	0	28	0	0	0	20
#165													
Base	0	0	0	0	-126	0	0	0	-534	0	0	0	-660
Added	0	0	0	0	158	0	0	0	674	0	0	0	832
Total	0	0	0	0	32	0	0	0	140	0	0	0	172
#170													
Base	0	-205	-391	0	0	0	0	0	0	0	0	0	-596
Added	0	246	485	0	0	0	0	0	0	0	0	0	731
Total	0	41	94	0	0	0	0	0	0	0	0	0	135
#177													
Base	0	0	0	0	-214	0	0	-163	0	0	0	0	-377
Added	0	0	0	0	263	0	0	157	0	0	0	0	421
Total	0	0	0	0	49	0	0	-6	0	0	0	0	44
#178													
Base	0	-323	0	0	0	0	-116	-47	0	0	0	0	-486
Added	0	385	0	0	0	0	90	67	0	0	0	0	542
Total	0	62	0	0	0	0	-26	20	0	0	0	0	56
#182													
Base	0	-439	0	0	0	-297	0	0	0	0	0	0	-736
Added	0	475	0	0	0	325	0	0	0	0	0	0	799
Total	0	36	0	0	0	28	0	0	0	0	0	0	63
#201													
Base	0	0	0	0	0	0	0	-1043	0	0	0	0	-104
Added	0	0	0	0	0	0	0	1194	0	0	0	0	1194
Total	0	0	0	0	0	0	0	151	0	0	0	0	151

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#204													
Base	0	0	0	-375	-668	0	0	0	0	0	0	0	-1043
Added	0	0	0	413	781	0	0	0	0	0	0	0	1194
Total	0	0	0	38	113	0	0	0	0	0	0	0	151
#207													
Base	0	-463	0	0	0	0	0	0	0	0	0	-278	-741
Added	0	525	0	0	0	0	0	0	0	0	0	308	833
Total	0	62	0	0	0	0	0	0	0	0	0	30	92
#214													
Base	0	0	0	0	0	0	0	0	0	-350	-391	0	-741
Added	0	0	0	0	0	0	0	0	0	348	485	0	833
Total	0	0	0	0	0	0	0	0	0	-2	94	0	92
#217													
Base	0	0	0	0	-19	0	0	-47	0	0	0	0	-66
Added	0	0	0	0	9	0	0	67	0	0	0	0	75
Total	0	0	0	0	-10	0	0	20	0	0	0	0	9
#218													
Base	0	-39	0	0	0	0	-31	-16	0	0	0	0	-86
Added	0	22	0	0	0	0	51	16	0	0	0	0	89
Total	0	-17	0	0	0	0	20	0	0	0	0	0	3
#219													
Base	0	-70	0	0	0	0	0	0	0	0	-5	0	-75
Added	0	72	0	0	0	0	0	0	0	0	5	0	77
Total	0	2	0	0	0	0	0	0	0	0	-0	0	2
#220													
Base	0	0	0	0	-19	-18	0	0	0	0	-5	0	-42
Added	0	0	0	0	9	31	0	0	0	0	5	0	44
Total	0	0	0	0	-10	13	0	0	0	0	-0	0	2
#225													
Base	0	0	0	0	0	0	0	0	0	0	-278	-5	-283
Added	0	0	0	0	0	0	0	0	0	0	308	5	312
Total	0	0	0	0	0	0	0	0	0	0	30	-0	29
#226													
Base	0	0	0	-16	0	0	0	-375	0	0	0	0	-391
Added	0	0	0	16	0	0	0	413	0	0	0	0	430
Total	0	0	0	0	0	0	0	38	0	0	0	0	39

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#244													
Base	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Link Volume Report
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	595	159	754	109	590	699	50	5	55	0	0	0	1508
Added	354	210	564	302	514	816	160	92	252	0	0	0	1632
Total	949	369	1318	411	1104	1515	210	97	307	0	0	0	3140
#4 Maritime St./ 14th St.													
Base	442	224	666	237	704	941	0	0	0	382	133	515	2122
Added	549	525	1074	210	354	564	482	362	844	0	0	0	2482
Total	991	749	1740	447	1058	1505	482	362	844	382	133	515	4604
#5 Maritime St./ 7th St. Extension													
Base	36	74	110	75	223	298	297	111	408	0	0	0	816
Added	1055	1102	2157	525	549	1074	1019	948	1967	0	0	0	5198
Total	1091	1176	2267	600	772	1372	1316	1059	2375	0	0	0	6014
#6 7th St./ 7th St. Extension													
Base	0	0	0	31	0	31	0	0	0	0	31	31	62
Added	0	0	0	1102	1055	2157	935	683	1618	758	1057	1815	5590
Total	0	0	0	1133	1055	2188	935	683	1618	758	1088	1846	5652
#7													
Base	324	225	549	0	0	0	346	183	529	182	444	626	1704
Added	0	0	0	0	0	0	604	399	1003	399	604	1003	2006
Total	324	225	549	0	0	0	950	582	1532	581	1048	1629	3710
#8 Adeline St./ 3rd St.													
Base	158	102	260	58	108	166	57	90	147	206	179	385	958
Added	955	628	1583	628	955	1583	0	0	0	0	0	0	3166
Total	1113	730	1843	686	1063	1749	57	90	147	206	179	385	4124
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	1	1	0	0	0	1	0	1	2
Added	350	275	625	0	0	0	604	427	1031	683	935	1618	3274
Total	350	275	625	0	1	1	604	427	1031	684	935	1619	3276
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	935	655	1590	0	0	0	275	350	625	399	604	1003	3218
Total	935	655	1590	0	0	0	275	350	625	399	604	1003	3218
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	23	233	256	55	56	111	684	647	1331	637	463	1100	2798
Added	514	302	816	0	0	0	250	438	688	52	76	128	1632
Total	537	535	1072	55	56	111	934	1085	2019	689	539	1228	4430

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	310	754	1064	295	271	566	818	398	1216	2846
Added	955	628	1583	122	189	310	158	246	404	348	520	868	3166
Total	955	628	1583	432	943	1374	453	517	970	1166	918	2084	6012
#14 Union St./ 5th St./ I-880 North Ramps													
Base	475	194	669	174	259	433	146	61	207	97	378	475	1784
Added	158	246	404	0	0	0	0	0	0	246	158	404	809
Total	633	440	1073	174	259	433	146	61	207	343	536	879	2593
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	200	0	200	207	198	405	108	258	366	54	113	167	1138
Added	485	0	485	268	365	633	383	758	1141	5	18	23	2283
Total	685	0	685	475	563	1038	491	1016	1507	59	131	190	3421
#16 7th St./ I-880 SB Ramps													
Base	0	385	385	0	0	0	7	0	7	378	0	378	770
Added	0	674	674	0	0	0	1057	758	1815	758	383	1141	3630
Total	0	1059	1059	0	0	0	1064	758	1822	1136	383	1519	4400
#17 14th St./ I-880 Frontage Rd.													
Base	192	115	307	4	69	73	0	0	0	122	134	256	636
Added	365	268	633	268	365	633	0	0	0	0	0	0	1266
Total	557	383	940	272	434	706	0	0	0	122	134	256	1902
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	147	3	150	765	488	1253	366	537	903	786	1036	1822	4128
Added	365	268	633	130	186	316	76	52	128	190	255	445	1522
Total	512	271	783	895	674	1569	442	589	1031	976	1291	2267	5650
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	569	682	1251	0	0	0	553	389	942	1071	1122	2193	4386
Total	569	682	1251	0	0	0	553	389	942	1071	1122	2193	4386
#138													
Base	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
#158													
Base	-422	0	-422	0	-259	-259	0	0	0	0	-163	-163	-844
Added	486	0	486	0	329	329	0	0	0	0	157	157	972
Total	64	0	64	0	70	70	0	0	0	0	-6	-6	128

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#159													
Base	-259	0	-259	0	0	0	0	-364	-364	-105	0	-105	-728
Added	329	0	329	0	0	0	0	426	426	97	0	97	851
Total	70	0	70	0	0	0	0	62	62	-8	0	-8	123
#160													
Base	0	-105	-105	0	0	0	0	-259	-259	-364	0	-364	-728
Added	0	97	97	0	0	0	0	329	329	426	0	426	851
Total	0	-8	-8	0	0	0	0	70	70	62	0	62	123
#161													
Base	0	-255	-255	-105	0	-105	-150	0	-150	0	0	0	-510
Added	0	275	275	97	0	97	178	0	178	0	0	0	549
Total	0	20	20	-8	0	-8	28	0	28	0	0	0	39
#165													
Base	0	-660	-660	-126	0	-126	-534	0	-534	0	0	0	-1320
Added	0	832	832	158	0	158	674	0	674	0	0	0	1664
Total	0	172	172	32	0	32	140	0	140	0	0	0	344
#170													
Base	-596	0	-596	0	-205	-205	0	0	0	0	-391	-391	-1192
Added	731	0	731	0	246	246	0	0	0	0	485	485	1462
Total	135	0	135	0	41	41	0	0	0	0	94	94	270
#177													
Base	0	-214	-214	-214	0	-214	-163	0	-163	0	-163	-163	-754
Added	0	263	263	263	0	263	157	0	157	0	157	157	841
Total	0	49	49	49	0	49	-6	0	-6	0	-6	-6	87
#178													
Base	-323	0	-323	0	-439	-439	-163	0	-163	0	-47	-47	-972
Added	385	0	385	0	475	475	157	0	157	0	67	67	1083
Total	62	0	62	0	36	36	-6	0	-6	0	20	20	111
#182													
Base	-439	0	-439	-297	-439	-736	0	-297	-297	0	0	0	-1472
Added	475	0	475	325	475	799	0	325	325	0	0	0	1599
Total	36	0	36	28	36	63	0	28	28	0	0	0	127
#201													
Base	0	0	0	0	0	0	-1043	0	-1043	0	-1043	-1043	-208
Added	0	0	0	0	0	0	1194	0	1194	0	1194	1194	2388
Total	0	0	0	0	0	0	151	0	151	0	151	151	302

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#204													
Base	0	-668	-668	-1043	0	-1043	0	0	0	0	-375	-375	-2086
Added	0	781	781	1194	0	1194	0	0	0	0	413	413	2388
Total	0	113	113	151	0	151	0	0	0	0	38	38	302
#207													
Base	-463	0	-463	0	-741	-741	0	0	0	-278	0	-278	-1482
Added	525	0	525	0	833	833	0	0	0	308	0	308	1666
Total	62	0	62	0	92	92	0	0	0	30	0	30	184
#214													
Base	0	-350	-350	0	0	0	0	-391	-391	-741	0	-741	-1482
Added	0	348	348	0	0	0	0	485	485	833	0	833	1666
Total	0	-2	-2	0	0	0	0	94	94	92	0	92	184
#217													
Base	0	-19	-19	-19	0	-19	-47	0	-47	0	-47	-47	-132
Added	0	9	9	9	0	9	67	0	67	0	67	67	151
Total	0	-10	-10	-10	0	-10	20	0	20	0	20	20	19
#218													
Base	-39	0	-39	0	-70	-70	-47	0	-47	0	-16	-16	-172
Added	22	0	22	0	72	72	67	0	67	0	16	16	177
Total	-17	0	-17	0	2	2	20	0	20	0	0	0	5
#219													
Base	-70	0	-70	0	-70	-70	0	-5	-5	-5	0	-5	-150
Added	72	0	72	0	72	72	0	5	5	5	0	5	154
Total	2	0	2	0	2	2	0	-0	-0	-0	0	-0	4
#220													
Base	0	-19	-19	-37	0	-37	0	-23	-23	-5	0	-5	-84
Added	0	9	9	39	0	39	0	35	35	5	0	5	88
Total	0	-10	-10	2	0	2	0	12	12	-0	0	-0	4
#225													
Base	0	0	0	0	-5	-5	0	-278	-278	-283	0	-283	-566
Added	0	0	0	0	5	5	0	308	308	312	0	312	625
Total	0	0	0	0	-0	-0	0	30	30	29	0	29	59
#226													
Base	0	0	0	-16	0	-16	-375	0	-375	0	-391	-391	-782
Added	0	0	0	16	0	16	413	0	413	0	430	430	859
Total	0	0	0	0	0	0	38	0	38	0	39	39	77

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#244													
Base	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 3 Maritime St./ Burma St.	B	7.2	0.211	B	9.5	0.317	+ 2.293 D/V
# 4 Maritime St./ 14th St.	C	15.9	0.392	C	19.9	0.762	+ 3.975 D/V
# 5 Maritime St./ 7th St. Extensio	B	5.8	0.080	B	13.7	0.677	+ 7.904 D/V
# 6 7th St./ 7th St. Extension	C	20.9	0.000	B	14.4	0.632	-6.444 D/V
# 8 Adeline St./ 3rd St.	C	20.4	0.084	F	64.3	0.656	+43.947 D/V
# 9 7th/Middle Harbor Rd	C	15.8	0.000	C	16.4	0.571	+ 0.612 D/V
# 10 New Harbor/Mid Harbor Rd		0.0	0.000	C	15.2	0.621	+15.243 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.4	0.237	C	18.8	0.411	+ 6.400 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	17.6	0.328	D	29.7	0.504	+12.076 D/V
# 14 Union St./ 5th St./ I-880 Nort	B	12.5	0.178	C	16.8	0.226	+ 4.303 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	11.5	0.135	C	18.2	0.397	+ 6.724 D/V
# 16 7th St./ I-880 SB Ramps	A	2.6	0.113	B	5.7	0.557	+ 3.122 D/V
# 17 14th St./ I-880 Frontage Rd.	A	1.9	0.000	C	2.1	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	21.1	0.505	C	22.1	0.639	+ 0.988 D/V

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 | Critical Vol./Cap. (X): 0.317
Loss Time (sec): 8 (Y+R = 4 sec) | Average Delay (sec/veh): 9.5
Optimal Cycle: 58 | Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	10	20	20	10	20	20	10	20	20	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	5	590	0	0	109	0	0	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	590	0	0	109	0	0	0	50	0	0	0
Added Vol:	0	354	0	0	210	92	160	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	944	0	0	319	92	160	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	944	0	0	319	92	160	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	944	0	0	319	92	160	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	992	0	0	335	96	160	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.97	0.97	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.55	0.45	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3800	0	1900	2865	821	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.12	0.12	0.09	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green/Cycle:	0.24	0.62	0.00	0.00	0.48	0.48	0.20	0.00	0.20	0.00	0.00	0.00
Volume/Cap:	0.01	0.42	0.00	0.00	0.24	0.24	0.44	0.00	0.15	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	18.7	6.4	0.0	0.0	9.9	9.9	23.3	0.0	21.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.7	6.4	0.0	0.0	9.9	9.9	23.3	0.0	21.4	0.0	0.0	0.0
Queue:	0	14	0	0	5	2	4	0	1	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec): 100 | Critical Vol./Cap. (X): 0.762
Loss Time (sec): 8 (Y+R = 4 sec) | Average Delay (sec/veh): 19.9
Optimal Cycle: 58 | Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Permitted			Permitted	
Rights:		Include			Include			Ovl			Include	
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	0	414	28	105	132	0	0	0	0	92	0	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	414	28	105	132	0	0	0	0	92	0	290
Added Vol:	295	255	0	0	142	68	100	0	382	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	295	669	28	105	274	68	100	0	382	92	0	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	295	669	28	105	274	68	100	0	382	92	0	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	295	669	28	105	274	68	100	0	382	92	0	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	295	702	29	105	288	71	100	0	382	92	0	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	0.97	0.97	0.58	1.00	0.58	0.40	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	1.60	0.40	0.21	0.00	0.79	1.00	0.00	1.00
Final Sat.:	1805	3613	149	1805	2957	729	227	0	868	760	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.19	0.19	0.06	0.10	0.10	0.44	0.00	0.44	0.12	0.00	0.18
Crit Moves:	****				****		****					
Green/Cycle:	0.20	0.26	0.26	0.13	0.20	0.20	0.52	0.00	0.72	0.52	0.00	0.52
Volume/Cap:	0.84	0.74	0.74	0.44	0.49	0.49	0.84	0.00	0.61	0.23	0.00	0.34
Level Of Service Module:												
Delay/Veh:	36.1	23.8	23.8	26.7	23.3	23.3	20.4	0.0	5.5	8.3	0.0	9.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.1	23.8	23.8	26.7	23.3	23.3	20.4	0.0	5.5	8.3	0.0	9.0
Queue:	9	19	1	3	7	2	3	0	6	1	0	5

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.677
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	13.7
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Ovl			Ovl			Include	
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0 2 0 0			0 0 2 0 1			2 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	36	0	0	0	0	75	223	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	0	0	0	75	223	0	74	0	0	0
Added Vol:	730	325	0	0	307	218	224	0	795	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	766	325	0	0	307	293	447	0	869	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	766	325	0	0	307	293	447	0	869	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	766	325	0	0	307	293	447	0	869	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	789	342	0	0	322	293	460	0	869	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.22	0.09	0.00	0.00	0.08	0.18	0.13	0.00	0.54	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.29	0.49	0.00	0.00	0.20	0.63	0.43	0.00	0.72	0.00	0.00	0.00
Volume/Cap:	0.75	0.18	0.00	0.00	0.42	0.29	0.30	0.00	0.75	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	22.8	9.1	0.0	0.0	22.8	5.5	12.2	0.0	7.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.8	9.1	0.0	0.0	22.8	5.5	12.2	0.0	7.4	0.0	0.0	0.0
Queue:	21	5	0	0	8	4	8	0	15	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.632
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	14.4
Optimal Cycle:	58	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Ovl	
Min. Green:	0	0	0	10	0	20	10	20	20	0	20	20
Lanes:	0 0 0 0 0			2 0 0 0 1			2 0 2 0 0			0 0 1 1 1		
Volume Module:												
Base Vol:	0	0	0	31	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	683	0	418	562	373	0	0	265	494
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	714	0	418	562	373	0	0	265	494
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	714	0	418	562	373	0	0	265	494
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	714	0	418	562	373	0	0	265	494
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.03	1.05	1.00	1.00	1.10	1.10
Final Vol.:	0	0	0	736	0	418	579	392	0	0	291	543
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	0.90	0.90
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	1.05	1.95
Final Sat.:	0	0	0	3610	0	1615	3610	3800	0	0	1790	3340
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.20	0.00	0.26	0.16	0.10	0.00	0.00	0.16	0.16
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.41	0.25	0.51	0.00	0.00	0.26	0.67
Volume/Cap:	0.00	0.00	0.00	0.50	0.00	0.63	0.63	0.20	0.00	0.00	0.63	0.24
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	14.4	0.0	16.6	22.4	8.6	0.0	0.0	22.0	4.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	14.4	0.0	16.6	22.4	8.6	0.0	0.0	22.0	4.3
Queue:	0	0	0	15	0	10	15	6	0	0	8	6

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.656
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 64.3
Optimal Cycle: 92 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0 1	0	0 1	0 1	0	0 1	0 1	0	0 1	0 1	0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	955	0	0	628	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	955	122	43	628	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	955	122	43	628	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	955	122	43	628	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	1003	128	45	659	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.06	1.72	0.22	0.12	1.84	0.04	1.00	0.52	0.48	0.84	0.39	0.77
Final Sat.:	121	3195	408	238	3478	84	1805	916	851	1512	663	1325
Capacity Analysis Module:												
Vol/Sat:	0.31	0.31	0.31	0.19	0.19	0.19	0.02	0.02	0.02	0.06	0.06	0.06
Crit Moves:			****		****			****			****	
Green/Cycle:	0.28	0.28	0.28	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.12	1.12	1.12	0.95	0.95	0.95	0.08	0.08	0.08	0.29	0.29	0.29
Level Of Service Module:												
Delay/Veh:	88.4	88.4	88.4	40.7	40.7	40.7	21.0	21.0	21.0	22.0	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	88.4	88.4	88.4	40.7	40.7	40.7	21.0	21.0	21.0	22.0	22.0	22.0
Queue:	3	51	9	3	22	1	1	0	0	2	1	2

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/Middle Harbor Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.571
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.4
Optimal Cycle: 58 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	1
Added Vol:	4	0	346	0	0	0	0	589	15	260	423	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	0	346	0	0	0	0	589	15	260	423	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	0	346	0	0	0	0	589	15	260	423	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	0	346	0	0	0	0	589	15	260	423	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	4	0	346	0	0	0	0	619	16	260	444	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.95	0.05	1.00	1.99	0.01
Final Sat.:	1805	0	1615	0	0	0	0	3704	96	1805	3791	9
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.17	0.17	0.14	0.12	0.12
Crit Moves:			****					****		****		
Green/Cycle:	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.29	0.29	0.25	0.54	0.54
Volume/Cap:	0.01	0.00	0.57	0.00	0.00	0.00	0.00	0.57	0.57	0.57	0.21	0.21
Level Of Service Module:												
Delay/Veh:	12.6	0.0	17.0	0.0	0.0	0.0	0.0	19.9	19.9	22.4	7.6	7.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.6	0.0	17.0	0.0	0.0	0.0	0.0	19.9	19.9	22.4	7.6	7.6
Queue:	0	0	8	0	0	0	0	15	1	7	6	0

Table J.7-4 (Continued)

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A-PM.CMD                 Tue Nov 5, 1996 10:49:51                  Page 12-1
-----------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                  Maximum Marine/Maximum Rail Alternative
                              PM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #10 New Harbor/Mid Harbor Rd
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.621
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      15.2
Optimal Cycle:       48              Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Ovl            Include          Include          Include
Min. Green:    10    0    20     0    0     0     0   20    20    10   20     0
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     0     0    0     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     0     0    0     0     0    0     0
Added Vol:    346    0   589     0    0     0     0   15   260   395    4     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  346    0   589     0    0     0     0   15   260   395    4     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   346    0   589     0    0     0     0   15   260   395    4     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  346    0   589     0    0     0     0   15   260   395    4     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.00
Final Vol.:   346    0   589     0    0     0     0   15   260   395    4     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  0.85  1.00 1.00  1.00  1.00 1.00  0.85  0.95 1.00  1.00
Lanes:       1.00 0.00  1.00  0.00 0.00  0.00  0.00 1.00  1.00  1.00 2.00  0.00
Final Sat.:  1805    0  1615     0    0     0     0 1900  1615  1805 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.00  0.36  0.00 0.00  0.00  0.00 0.01  0.16  0.22 0.00  0.00
Crit Moves:  ****                                         ****  ****
Green/Cycle: 0.31 0.00  0.66  0.00 0.00  0.00  0.00 0.26  0.26  0.35 0.61  0.00
Volume/Cap:  0.62 0.00  0.55  0.00 0.00  0.00  0.00 0.03  0.62  0.62 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   20.6  0.0   6.3   0.0  0.0   0.0   0.0 17.9  23.0  18.7  4.9   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.6  0.0   6.3   0.0  0.0   0.0   0.0 17.9  23.0  18.7  4.9   0.0
Queue:          9    0     9     0    0     0     0    0     7     9    0     0
*****************************************************************************

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A-PM.CMD                 Tue Nov 5, 1996 10:49:51                  Page 13-1
-----------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                  Maximum Marine/Maximum Rail Alternative
                              PM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.411
Loss Time (sec):     10 (Y+R =  4 sec) Average Delay (sec/veh):      18.8
Optimal Cycle:       70              Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   20    20    10   20    20
Lanes:        2  0  0  1  0    1  0  0  1  0    1  0  1  1  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   23     0     9   23    23    20  454   210     0  624    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   23     0     9   23    23    20  454   210     0  624    13
Added Vol:    438    0    76     0    0     0     0    0   250    52    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  438   23    76     9   23    23    20  454   460    52  624    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   438   23    76     9   23    23    20  454   460    52  624    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  438   23    76     9   23    23    20  454   460    52  624    13
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.03 1.00  1.00  1.00 1.00  1.00  1.00 1.10  1.10  1.00 1.05  1.05
Final Vol.:   452   23    76     9   23    23    20  499   506    52  655    14
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.88  0.88  0.95 0.93  0.93  0.95 0.93  0.93  0.95 1.00  1.00
Lanes:       2.00 0.23  0.77  1.00 0.50  0.50  1.00 1.49  1.51  1.00 1.96  0.04
Final Sat.:  3610  388  1284  1805  884   884  1805 2632  2669  1805 3720    80
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.06  0.06  0.00 0.03  0.03  0.01 0.19  0.19  0.03 0.18  0.18
Crit Moves:  ****                  ****              ****        ****
Green/Cycle: 0.24 0.29  0.29  0.15 0.20  0.20  0.15 0.36  0.36  0.10 0.31  0.31
Volume/Cap:  0.52 0.20  0.20  0.03 0.13  0.13  0.07 0.52  0.52  0.29 0.57  0.57
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   21.9 17.2  17.2  23.7 21.2  21.2  23.4 16.5  16.5  27.2 19.3  19.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  21.9 17.2  17.2  23.7 21.2  21.2  23.4 16.5  16.5  27.2 19.3  19.3
Queue:         11    0     2     0    1     1     0   11    11     1   16     0
*****************************************************************************

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```

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec):	100	Critical Vol./Cap. (X):	0.504
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	29.7
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	10	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	1 1	0 1	0	1 0	0 1	1
Volume Module:												
Base Vol:	0	0	0	241	0	69	138	157	0	0	202	616
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	241	0	69	138	157	0	0	202	616
Added Vol:	246	189	520	0	122	0	0	0	158	348	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	246	189	520	241	122	69	138	157	158	348	202	616
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	246	189	520	241	122	69	138	157	158	348	202	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	246	189	520	241	122	69	138	157	158	348	202	308
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.05	1.10	1.10	1.10	1.00	1.05	1.05
Final Vol.:	246	189	520	241	128	72	152	173	174	348	212	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.95	0.94	0.94	0.94	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	1.28	0.72	1.00	1.00	1.00	1.00	0.79	1.21
Final Sat.:	1805	1900	1615	1805	2310	1300	1787	1787	1787	1805	1370	2088
Capacity Analysis Module:												
Vol/Sat:	0.14	0.10	0.32	0.13	0.06	0.06	0.09	0.10	0.10	0.19	0.15	0.15
Crit Moves:	****				****				****	****		
Green/Cycle:	0.20	0.28	0.56	0.12	0.20	0.20	0.20	0.20	0.20	0.28	0.28	0.28
Volume/Cap:	0.69	0.35	0.57	1.14	0.28	0.28	0.43	0.48	0.49	0.69	0.55	0.55
Level Of Service Module:												
Delay/Veh:	27.7	18.5	9.6	134.4	21.9	21.9	22.8	23.2	23.2	23.3	20.3	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.7	18.5	9.6	134.4	21.9	21.9	22.8	23.2	23.2	23.3	20.3	20.3
Queue:	7	4	10	15	3	2	4	4	4	9	5	8

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.226
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	16.8
Optimal Cycle:	71	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0	1 1	1	0 0	1 1	0	0 1	0 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	194	281	0	144	30	31	97	18	32	31	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	194	281	0	144	30	31	97	18	32	31	34
Added Vol:	0	0	158	0	0	0	0	0	0	246	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	194	439	0	144	30	31	97	18	278	31	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	194	439	0	144	30	31	97	18	278	31	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	194	439	0	144	30	31	97	18	278	31	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.05	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	194	461	0	151	32	33	102	19	278	31	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	1.00	0.97	0.97	0.97	0.97	0.97	0.95	1.00	0.85
Lanes:	0.00	1.00	2.00	0.00	1.65	0.35	0.43	1.32	0.25	1.00	1.00	1.00
Final Sat.:	0	1900	3230	0	3041	645	790	2442	455	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.14	0.00	0.05	0.05	0.04	0.04	0.04	0.15	0.02	0.02
Crit Moves:			****	****				****			****	
Green/Cycle:	0.00	0.33	0.33	0.00	0.33	0.33	0.20	0.20	0.20	0.36	0.36	0.36
Volume/Cap:	0.00	0.31	0.43	0.00	0.15	0.15	0.21	0.21	0.21	0.43	0.05	0.06
Level Of Service Module:												
Delay/Veh:	0.0	16.1	16.9	0.0	15.2	15.2	21.6	21.6	21.6	16.0	13.5	13.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.1	16.9	0.0	15.2	15.2	21.6	21.6	21.6	16.0	13.5	13.6
Queue:	0	4	10	0	3	1	1	2	0	6	1	1

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 | Critical Vol./Cap. (X): 0.397
Loss Time (sec): 10 (Y+R = 4 sec) | Average Delay (sec/veh): 18.2
Optimal Cycle: 70 | Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	2 0 0 1 0			1 0 0 0 2			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	197	3	2	0	205	0	108	0	0	53	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	197	3	2	0	205	0	108	0	0	53	1
Added Vol:	485	0	0	0	0	268	365	18	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	197	3	2	0	473	365	126	0	0	58	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	197	3	2	0	473	365	126	0	0	58	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	197	3	2	0	473	365	126	0	0	58	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.13	1.00	1.05	1.00	1.00	1.05	1.05
Final Vol.:	500	197	3	2	0	535	365	133	0	0	61	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	0.98	0.02	1.00	0.00	2.00	1.00	2.00	0.00	0.00	1.97	0.03
Final Sat.:	3610	1872	29	1805	0	3230	1805	3800	0	0	3739	61
Capacity Analysis Module:												
Vol/Sat:	0.14	0.11	0.11	0.00	0.00	0.17	0.20	0.04	0.00	0.00	0.02	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.20	0.27	0.27	0.13	0.00	0.50	0.30	0.50	0.00	0.00	0.20	0.20
Volume/Cap:	0.68	0.39	0.39	0.01	0.00	0.33	0.68	0.07	0.00	0.00	0.08	0.08
Level Of Service Module:												
Delay/Veh:	25.6	19.6	19.6	24.2	0.0	9.9	22.5	8.5	0.0	0.0	21.0	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.6	19.6	19.6	24.2	0.0	9.9	22.5	8.5	0.0	0.0	21.0	21.0
Queue:	13	5	0	0	0	9	9	2	0	0	1	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 | Critical Vol./Cap. (X): 0.557
Loss Time (sec): 5 (Y+R = 4 sec) | Average Delay (sec/veh): 5.7
Optimal Cycle: 35 | Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	20	20	10	20	20
Lanes:	0 0 0 0 0			0 0 0 0 0			0 0 2 0 1			2 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	7	378	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	7	378	0	0
Added Vol:	0	0	0	0	0	0	0	383	674	0	758	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	383	681	378	758	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	383	681	378	758	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	383	681	378	758	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.03	1.05	1.00
Final Vol.:	0	0	0	0	0	0	0	402	681	389	796	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3800	1615	3610	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.42	0.11	0.21	0.00
Crit Moves:									****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.76	0.19	0.95	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.56	0.56	0.22	0.00
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.7	24.3	0.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.7	24.3	0.1	0.0
Queue:	0	0	0	0	0	0	0	3	8	10	1	0

Table J.7-4 (Continued)

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A-PM.CMD                Tue Nov 5, 1996 10:49:51                  Page 18-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                Maximum Marine/Maximum Rail Alternative
                             PM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
*****************************************************************************
Average Delay (sec/veh):       2.1          Worst Case Level Of Service:     C
*****************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Lanes:         0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   62   130     4    0     0     0    0     0   115    0     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   62   130     4    0     0     0    0     0   115    0     7
Added Vol:      0  365     0     0  268     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  427   130     4  268     0     0    0     0   115    0     7
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  427   130     4  268     0     0    0     0   115    0     7
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0  427   130     4  268     0     0    0     0   115    0     7
Adjusted Volume Module:
Grade:             0%               0%               0%               0%
% Cycle/Cars:  xxxx xxxx         xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:  xxxx xxxx         xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:     1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:  xxxx xxxx         xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:  xxxx xxxx         xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:       0  427   130     4  268     0     0    0     0   127    0     8
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx   2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx   5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   557 xxxx xxxxx  xxxx xxxx xxxxx   764 xxxx   278
Potent Cap.: xxxx xxxx xxxxx   861 xxxx xxxxx  xxxx xxxx xxxxx   344 xxxx  1001
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.99 xxxx  1.00
Move Cap.:   xxxx xxxx xxxxx   861 xxxx xxxxx  xxxx xxxx xxxxx   342 xxxx  1001
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   4.2 xxxx xxxxx xxxxx xxxx xxxxx  15.8 xxxx   3.6
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:        0.0              0.1              0.0             15.1

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```
A-PM.CMD                Tue Nov 5, 1996 10:49:51                  Page 19-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                Maximum Marine/Maximum Rail Alternative
                             PM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
*****************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):          0.639
Loss Time (sec):      11 (Y+R =  4 sec) Average Delay (sec/veh):        22.1
Optimal Cycle:        81              Level Of Service:                    C
*****************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Split Phase      Split Phase       Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   20    20    10   20    20
Lanes:         1  0  1  1  0    1  1  0  1  0    1  0  1  1  0    1  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      75   72     0   759    0     6    86  277     3     0  456   330
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   75   72     0   759    0     6    86  277     3     0  456   330
Added Vol:      0  186   179     0  130     0     0   76     0   138   52     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   75  258   179   759  130     6    86  353     3   138  508   330
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    75  258   179   759  130     6    86  353     3   138  508   330
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   75  258   179   759  130     6    86  353     3   138  508   330
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05  1.05 1.00  1.00  1.00 1.05  1.05  1.00 1.10  1.10
Final Vol.:    75  271   188   797  130     6    86  371     3   138  559   363
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.94  0.94  0.95 0.99  0.99  0.95 1.00  1.00  0.95 0.94  0.94
Lanes:       1.00 1.18  0.82  2.00 0.96  0.04  1.00 1.98  0.02  1.00 1.82  1.18
Final Sat.:  1805 2109  1463  3610 1798    83  1805 3770    30  1805 3249  2109
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.13  0.22 0.07  0.07  0.05 0.10  0.10  0.08 0.17  0.17
Crit Moves:       ****        ****             ****                  ****
Green/Cycle: 0.20 0.20  0.20  0.33 0.33  0.33  0.10 0.24  0.24  0.12 0.26  0.26
Volume/Cap:  0.21 0.64  0.64  0.67 0.22  0.22  0.48 0.41  0.41  0.64 0.67  0.67
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   21.6 25.1  25.1  19.4 15.6  15.6  29.0 20.9  20.9  31.4 22.3  22.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  21.6 25.1  25.1  19.4 15.6  15.6  29.0 20.9  20.9  31.4 22.3  22.3
Queue:          2    7     5    19    3     0     2    9     0     4   14     9
*****************************************************************************

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Table J.7-5

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	391.00	Employees	0.26	0.05	102	20	122	2.3
	Zone 1 Subtotal					102	20	122	2.3
2	Hrbr Trns Ct	400.00	Employees	0.28	0.05	112	20	132	2.5
	Zone 2 Subtotal					112	20	132	2.5
3	J.I.T.	167.00	Employees	0.40	0.09	67	15	82	1.6
	Zone 3 Subtotal					67	15	82	1.6
4	SP Rail Term	150.00	Employees	0.40	0.09	60	13	73	1.4
	Zone 4 Subtotal					60	13	73	1.4
5	UP Rail Term	67.00	Employees	0.40	0.09	27	6	33	0.6
	Zone 5 Subtotal					27	6	33	0.6
6	Middle Harbr	516.00	Employees	0.26	0.05	134	26	160	3.0
	Zone 6 Subtotal					134	26	160	3.0
7	7th St Harbr	613.00	Employees	0.26	0.05	159	31	190	3.6
	Zone 7 Subtotal					159	31	190	3.6
8	Outer Harbor	792.00	Employees	0.26	0.05	206	40	246	4.7
	Zone 8 Subtotal					206	40	246	4.7
10	New Park	1.00	Total Trips	24.00	16.00	24	16	40	0.8
	Zone 10 Subtotal					24	16	40	0.8
11	New Harbor	1.00	Trucks Inter	46.00	49.00	46	49	95	1.8
	Zone 11 Subtotal					46	49	95	1.8
16	Middle Harbr	1.00	Trucks Inter	60.00	64.00	60	64	124	2.3
	Zone 16 Subtotal					60	64	124	2.3
17	7th St Harbr	1.00	Trucks Inter	72.00	77.00	72	77	149	2.8
	Zone 17 Subtotal					72	77	149	2.8
18	Outer Harbor	1.00	Trucks Inter	93.00	99.00	93	99	192	3.6
	Zone 18 Subtotal					93	99	192	3.6
21	New Harbor	1.00	Truck External	226.00	241.00	226	241	467	8.8
	Zone 21 Subtotal					226	241	467	8.8
23	J.I.T.	1.00	Truck External	197.00	210.00	197	210	407	7.7

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 23 Subtotal					197	210	407	7.7
24	SP Rail Term	1.00	Truck External	175.00	180.00	175	180	355	6.7
	Zone 24 Subtotal					175	180	355	6.7
25	UP Rail Term	1.00	Truck External	59.00	63.00	59	63	122	2.3
	Zone 25 Subtotal					59	63	122	2.3
26	Middle Harbr	1.00	Truck External	298.00	317.00	298	317	615	11.6
	Zone 26 Subtotal					298	317	615	11.6
27	7th St Harbr	1.00	Truck External	354.00	377.00	354	377	731	13.8
	Zone 27 Subtotal					354	377	731	13.8
28	Outer Harbor	1.00	Truck External	457.00	487.00	457	487	944	17.9
	Zone 28 Subtotal					457	487	944	17.9
TOTAL						2928	2351	5279	100.0

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
2	0.0	0.0	0.0	10.0	30.0	7.0	19.0	19.0	15.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
4	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
5	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
16	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
17	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
18	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
24	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
25	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Turning Movement Report
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#3 Maritime St./ Burma St.													
Base	5	78	0	0	287	0	0	0	5	0	0	0	375
Added	0	282	0	0	391	224	147	0	0	0	0	0	1043
Total	5	360	0	0	678	224	147	0	5	0	0	0	1418
#4 Maritime St./ 14th St.													
Base	0	91	39	103	261	0	0	0	0	22	0	87	603
Added	392	167	0	0	251	140	115	0	364	0	0	0	1429
Total	392	258	39	103	512	140	115	0	364	22	0	87	2032
#5 Maritime St./ 7th St. Extension													
Base	159	0	0	0	0	334	69	0	37	0	0	0	599
Added	310	489	0	0	529	86	70	0	279	0	0	0	1764
Total	469	489	0	0	529	420	139	0	316	0	0	0	2363
#6 7th St./ 7th St. Extension													
Base	15	0	0	0	0	0	0	0	0	26	0	54	95
Added	58	138	49	463	160	186	139	422	62	55	499	523	2753
Total	73	138	49	463	160	186	139	422	62	81	499	577	2848
#7 Middle Harbor Rd. / Gate 2													
Base	53	0	45	0	0	0	0	0	39	208	338	0	683
Added	1	0	207	0	0	0	0	202	8	300	271	0	990
PassBy	106	0	159	0	0	0	0	0	71	106	0	0	442
Total	160	0	411	0	0	0	0	202	118	614	609	0	2115
#8 Adeline St./ 3rd St.													
Base	8	0	31	26	0	26	8	6	29	50	59	56	299
Added	0	700	0	0	966	0	0	0	0	0	0	0	1665
Total	8	700	31	26	966	26	8	6	29	50	59	56	1964
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	122	0	0	0	0	501	0	133	609	0	1365
Total	0	0	122	0	0	0	0	501	0	133	609	0	1365
#10													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	122	0	0	0	0	0	0	210	133	45	227	0	738
Total	122	0	0	0	0	0	0	210	133	45	227	0	738
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	33	0	16	28	47	48	394	438	0	300	9	1313
Added	310	0	119	0	0	0	0	0	478	136	0	0	1043
Total	310	33	119	16	28	47	48	394	916	136	300	9	2356

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	72	109	165	256	51	0	0	169	364	1186
Added	125	123	451	0	189	0	0	0	207	569	0	0	1665
Total	125	123	451	72	298	165	256	51	207	569	169	364	2851
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	175	45	0	154	31	24	43	13	205	31	115	836
Added	0	0	207	0	0	0	0	0	0	125	0	0	333
Total	0	175	252	0	154	31	24	43	13	330	31	115	1169
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	548	21	17	0	94	0	16	0	0	62	1	759
Added	679	0	0	0	0	379	332	13	0	0	19	0	1422
Total	679	548	21	17	0	473	332	29	0	0	81	1	2181
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	0	65	0	0	65
Added	0	0	0	0	0	0	0	345	589	0	1077	0	2011
Total	0	0	0	0	0	0	0	345	589	65	1077	0	2076
#17 14th St./ I-880 Frontage Rd.													
Base	0	0	89	30	0	0	0	0	0	140	0	6	265
Added	0	332	0	0	379	0	0	0	0	0	0	0	711
Total	0	332	89	30	379	0	0	0	0	140	0	6	976
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	0	0	678	48	6	65	234	12	0	152	449	1653
Added	0	212	120	0	239	0	0	119	0	140	136	0	966
Total	9	212	120	678	287	6	65	353	12	140	288	449	2619
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	124	0	0	0	0	225	0	132	264	0	745
Total	0	0	124	0	0	0	0	225	0	132	264	0	745
#138													
Base	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
Added	0	69	0	0	86	40	37	0	0	0	0	0	232
Total	0	-87	0	0	-87	14	13	0	0	0	0	0	-147
#158													
Base	0	-180	-129	0	0	0	0	0	0	0	0	0	-309
Added	0	205	139	0	0	0	0	0	0	0	0	0	344
Total	0	25	10	0	0	0	0	0	0	0	0	0	35

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#159													
Base	-180	0	0	0	0	0	0	0	0	0	-178	0	-358
Added	205	0	0	0	0	0	0	0	0	0	195	0	400
Total	25	0	0	0	0	0	0	0	0	0	17	0	42
#160													
Base	0	0	0	0	0	0	0	0	0	-178	-180	0	-358
Added	0	0	0	0	0	0	0	0	0	195	205	0	400
Total	0	0	0	0	0	0	0	0	0	17	25	0	42
#161													
Base	0	0	0	0	-178	0	0	0	-286	0	0	0	-464
Added	0	0	0	0	195	0	0	0	340	0	0	0	536
Total	0	0	0	0	17	0	0	0	54	0	0	0	72
#165													
Base	0	0	0	0	-227	0	0	0	-495	0	0	0	-722
Added	0	0	0	0	207	0	0	0	589	0	0	0	797
Total	0	0	0	0	-20	0	0	0	94	0	0	0	75
#170													
Base	0	-153	-564	0	0	0	0	0	0	0	0	0	-717
Added	0	125	679	0	0	0	0	0	0	0	0	0	804
Total	0	-28	115	0	0	0	0	0	0	0	0	0	87
#177													
Base	0	0	0	0	-351	0	0	-129	0	0	0	0	-480
Added	0	0	0	0	389	0	0	139	0	0	0	0	528
Total	0	0	0	0	38	0	0	10	0	0	0	0	48
#178													
Base	0	-266	0	0	0	0	-104	-25	0	0	0	0	-395
Added	0	302	0	0	0	0	104	35	0	0	0	0	442
Total	0	36	0	0	0	0	0	10	0	0	0	0	47
#182													
Base	0	-370	0	0	0	-475	0	0	0	0	0	0	-845
Added	0	407	0	0	0	515	0	0	0	0	0	0	922
Total	0	37	0	0	0	40	0	0	0	0	0	0	77
#201													
Base	0	0	0	0	0	0	0	-932	0	0	0	0	-932
Added	0	0	0	0	0	0	0	1040	0	0	0	0	1040
Total	0	0	0	0	0	0	0	108	0	0	0	0	108

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#204													
Base	0	0	0	-352	-580	0	0	0	0	0	0	0	-932
Added	0	0	0	391	649	0	0	0	0	0	0	0	1040
Total	0	0	0	39	69	0	0	0	0	0	0	0	108
#207													
Base	0	-714	0	0	0	0	0	0	0	0	0	-396	-1110
Added	0	813	0	0	0	0	0	0	0	0	0	435	1248
Total	0	99	0	0	0	0	0	0	0	0	0	39	138
#214													
Base	0	0	0	0	0	0	0	0	0	-546	-564	0	-1110
Added	0	0	0	0	0	0	0	0	0	569	679	0	1248
Total	0	0	0	0	0	0	0	0	0	23	115	0	138
#217													
Base	0	0	0	0	-45	0	0	-25	0	0	0	0	-70
Added	0	0	0	0	38	0	0	35	0	0	0	0	73
Total	0	0	0	0	-7	0	0	10	0	0	0	0	3
#218													
Base	0	-21	0	0	0	0	-21	-4	0	0	0	0	-46
Added	0	16	0	0	0	0	31	4	0	0	0	0	51
Total	0	-5	0	0	0	0	10	0	0	0	0	0	5
#219													
Base	0	-43	0	0	0	0	0	0	0	0	-20	0	-63
Added	0	47	0	0	0	0	0	0	0	0	23	0	70
Total	0	4	0	0	0	0	0	0	0	0	3	0	7
#220													
Base	0	0	0	0	-45	-34	0	0	0	0	-20	0	-99
Added	0	0	0	0	38	46	0	0	0	0	23	0	107
Total	0	0	0	0	-7	12	0	0	0	0	3	0	8
#225													
Base	0	0	0	0	0	0	0	0	0	0	-396	-20	-416
Added	0	0	0	0	0	0	0	0	0	0	435	23	458
Total	0	0	0	0	0	0	0	0	0	0	39	3	42
#226													
Base	0	0	0	-4	0	0	0	-352	0	0	0	0	-356
Added	0	0	0	4	0	0	0	391	0	0	0	0	395
Total	0	0	0	0	0	0	0	39	0	0	0	0	39

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#244													
Base	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692
Added	0	0	0	0	0	193	235	117	0	0	110	0	655
Total	0	0	0	0	0	-95	-77	70	0	0	65	0	-37

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Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Link Volume Report
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	83	292	375	287	78	365	5	5	10	0	0	0	750
Added	282	391	672	614	429	1043	147	224	371	0	0	0	2086
Total	365	683	1047	901	507	1408	152	229	381	0	0	0	2836
#4 Maritime St./ 14th St.													
Base	130	283	413	364	178	542	0	0	0	109	142	251	1206
Added	559	615	1174	391	282	672	479	532	1011	0	0	0	2858
Total	689	898	1587	755	460	1214	479	532	1011	109	142	251	4064
#5 Maritime St./ 7th St. Extension													
Base	159	37	196	334	69	403	106	493	599	0	0	0	1198
Added	800	808	1608	615	559	1174	349	396	745	0	0	0	3528
Total	959	845	1804	949	628	1577	455	889	1344	0	0	0	4726
#6 7th St./ 7th St. Extension													
Base	15	26	41	0	54	54	0	15	15	80	0	80	190
Added	245	277	521	808	800	1608	623	742	1365	1077	934	2011	5505
Total	260	303	562	808	854	1662	623	757	1380	1157	934	2091	5695
#7 Middle Harbor Rd. / Gate 2													
Base	98	247	345	0	0	0	39	391	430	546	45	591	1366
Added	208	308	516	0	0	0	210	273	483	571	409	980	1979
Total	306	555	861	0	0	0	249	664	913	1117	454	1571	3345
#8 Adeline St./ 3rd St.													
Base	39	79	118	52	64	116	43	93	136	165	63	228	598
Added	700	966	1665	966	700	1665	0	0	0	0	0	0	3330
Total	739	1045	1783	1018	764	1781	43	93	136	165	63	228	3928
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	122	133	255	0	0	0	501	609	1110	742	623	1365	2730
Total	122	133	255	0	0	0	501	609	1110	742	623	1365	2730
#10													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	122	178	300	0	0	0	344	349	693	273	210	483	1476
Total	122	178	300	0	0	0	344	349	693	273	210	483	1476
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	33	466	499	91	90	181	880	347	1227	309	410	719	2626
Added	429	614	1043	0	0	0	478	310	788	136	119	255	2086
Total	462	1080	1542	91	90	181	1358	657	2015	445	529	974	4712

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	109	109	346	620	966	307	334	641	533	123	656	2372
Added	700	966	1665	189	123	313	207	125	333	569	451	1020	3330
Total	700	1075	1774	535	743	1279	514	459	974	1102	574	1676	5702
#14 Union St./ 5th St./ I-880 North Ramps													
Base	220	372	592	185	314	499	80	62	142	351	88	439	1672
Added	207	125	333	0	0	0	0	0	0	125	207	333	665
Total	427	497	925	185	314	499	80	62	142	476	295	772	2337
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	569	0	569	111	549	660	16	156	172	63	54	117	1518
Added	679	0	679	379	332	711	345	1077	1422	19	13	32	2843
Total	1248	0	1248	490	881	1371	361	1233	1594	82	67	149	4361
#16 7th St./ I-880 SB Ramps													
Base	0	65	65	0	0	0	0	0	0	65	0	65	130
Added	0	589	589	0	0	0	934	1077	2011	1077	345	1422	4022
Total	0	654	654	0	0	0	934	1077	2011	1142	345	1487	4152
#17 14th St./ I-880 Frontage Rd.													
Base	89	140	229	30	6	36	0	0	0	146	119	265	530
Added	332	379	711	379	332	711	0	0	0	0	0	0	1421
Total	421	519	940	409	338	747	0	0	0	146	119	265	1951
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	60	69	732	514	1246	311	167	478	601	912	1513	3306
Added	332	379	711	239	212	451	119	136	255	276	239	515	1932
Total	341	439	780	971	726	1697	430	303	733	877	1151	2028	5238
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	124	132	256	0	0	0	225	264	489	396	349	745	1490
Total	124	132	256	0	0	0	225	264	489	396	349	745	1490
#138													
Base	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
Added	69	86	155	126	106	232	37	40	77	0	0	0	463
Total	-87	-87	-174	-73	-74	-147	13	14	27	0	0	0	-295
#158													
Base	-309	0	-309	0	-180	-180	0	0	0	0	-129	-129	-618
Added	344	0	344	0	205	205	0	0	0	0	139	139	688
Total	35	0	35	0	25	25	0	0	0	0	10	10	70

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#159													
Base	-180	0	-180	0	0	0	0	-358	-358	-178	0	-178	-716
Added	205	0	205	0	0	0	0	400	400	195	0	195	800
Total	25	0	25	0	0	0	0	42	42	17	0	17	84
#160													
Base	0	-178	-178	0	0	0	0	-180	-180	-358	0	-358	-716
Added	0	195	195	0	0	0	0	205	205	400	0	400	800
Total	0	17	17	0	0	0	0	25	25	42	0	42	84
#161													
Base	0	-464	-464	-178	0	-178	-286	0	-286	0	0	0	-928
Added	0	536	536	195	0	195	340	0	340	0	0	0	1072
Total	0	72	72	17	0	17	54	0	54	0	0	0	144
#165													
Base	0	-722	-722	-227	0	-227	-495	0	-495	0	0	0	-1444
Added	0	797	797	207	0	207	589	0	589	0	0	0	1593
Total	0	75	75	-20	0	-20	94	0	94	0	0	0	149
#170													
Base	-717	0	-717	0	-153	-153	0	0	0	0	-564	-564	-1434
Added	804	0	804	0	125	125	0	0	0	0	679	679	1608
Total	87	0	87	0	-28	-28	0	0	0	0	115	115	174
#177													
Base	0	-351	-351	-351	0	-351	-129	0	-129	0	-129	-129	-960
Added	0	389	389	389	0	389	139	0	139	0	139	139	1056
Total	0	38	38	38	0	38	10	0	10	0	10	10	96
#178													
Base	-266	0	-266	0	-370	-370	-129	0	-129	0	-25	-25	-790
Added	302	0	302	0	407	407	139	0	139	0	35	35	883
Total	36	0	36	0	37	37	10	0	10	0	10	10	93
#182													
Base	-370	0	-370	-475	-370	-845	0	-475	-475	0	0	0	-1690
Added	407	0	407	515	407	922	0	515	515	0	0	0	1844
Total	37	0	37	40	37	77	0	40	40	0	0	0	154
#201													
Base	0	0	0	0	0	0	-932	0	-932	0	-932	-932	-1864
Added	0	0	0	0	0	0	1040	0	1040	0	1040	1040	2080
Total	0	0	0	0	0	0	108	0	108	0	108	108	216

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#204													
Base	0	-580	-580	-932	0	-932	0	0	0	0	-352	-352	-1864
Added	0	649	649	1040	0	1040	0	0	0	0	391	391	2080
Total	0	69	69	108	0	108	0	0	0	0	39	39	216
#207													
Base	-714	0	-714	0	-1110	-1110	0	0	0	-396	0	-396	-222
Added	813	0	813	0	1248	1248	0	0	0	435	0	435	2496
Total	99	0	99	0	138	138	0	0	0	39	0	39	276
#214													
Base	0	-546	-546	0	0	0	0	-564	-564	-1110	0	-1110	-2220
Added	0	569	569	0	0	0	0	679	679	1248	0	1248	2496
Total	0	23	23	0	0	0	0	115	115	138	0	138	276
#217													
Base	0	-45	-45	-45	0	-45	-25	0	-25	0	-25	-25	-140
Added	0	38	38	38	0	38	35	0	35	0	35	35	146
Total	0	-7	-7	-7	0	-7	10	0	10	0	10	10	6
#218													
Base	-21	0	-21	0	-42	-42	-25	0	-25	0	-4	-4	-92
Added	16	0	16	0	47	47	35	0	35	0	4	4	103
Total	-5	0	-5	0	5	5	10	0	10	0	0	0	11
#219													
Base	-43	0	-43	0	-43	-43	0	-20	-20	-20	0	-20	-126
Added	47	0	47	0	47	47	0	23	23	23	0	23	139
Total	4	0	4	0	4	4	0	3	3	3	0	3	13
#220													
Base	0	-45	-45	-79	0	-79	0	-54	-54	-20	0	-20	-198
Added	0	38	38	84	0	84	0	69	69	23	0	23	214
Total	0	-7	-7	5	0	5	0	15	15	3	0	3	16
#225													
Base	0	0	0	0	-20	-20	0	-396	-396	-416	0	-416	-832
Added	0	0	0	0	23	23	0	435	435	458	0	458	915
Total	0	0	0	0	3	3	0	39	39	42	0	42	83
#226													
Base	0	0	0	-4	0	-4	-352	0	-352	0	-356	-356	-712
Added	0	0	0	4	0	4	391	0	391	0	395	395	791
Total	0	0	0	0	0	0	39	0	39	0	39	39	79

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#244													
Base	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384
Added	0	0	0	193	235	428	352	303	655	110	117	227	1311
Total	0	0	0	-95	-77	-172	-7	-30	-37	65	70	135	-73

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 3 Maritime St./ Burma St.	B	6.3	0.089	B	9.0	0.285	+ 2.643 D/V
# 4 Maritime St./ 14th St.	C	15.0	0.161	C	21.2	0.818	+ 6.156 D/V
# 5 Maritime St./ 7th St. Extensio	B	12.7	0.071	B	10.8	0.372	-1.871 D/V
# 6 7th St./ 7th St. Extension	B	12.3	0.009	C	18.9	0.571	+ 6.608 D/V
# 7 Middle Harbor Rd. / Gate 2	B	6.6	0.167	C	15.2	0.689	+ 8.566 D/V
# 8 Adeline St./ 3rd St.	B	8.7	0.064	E	47.9	0.618	+39.207 D/V
# 9 7th/New Middle Harbor		0.0	0.000	B	9.8	0.313	+ 9.800 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.0	0.242	C	17.8	0.561	+ 5.851 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	18.3	0.236	C	20.8	0.731	+ 2.508 D/V
# 14 Union St./ 5th St./ I-880 Nort	C	16.4	0.104	C	17.2	0.146	+ 0.792 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	13.0	0.366	C	21.7	0.576	+ 8.695 D/V
# 16 7th St./ I-880 SB Ramps	A	0.1	0.020	A	1.4	0.403	+ 1.306 D/V
# 17 14th St./ I-880 Frontage Rd.	A	2.8	0.000	C	3.2	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	19.9	0.237	C	21.1	0.498	+ 1.220 D/V

Table J.7-5 (Continued)

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B-AM.CMD                Tue Nov 5, 1996 13:06:46                Page 6-1
------------------------------------------------------------------------
                   FISCO/Port Vision 2000 EIS/EIR
              Minimum Marine/Minimum Rail Alternative
                            AM Peak Hour
------------------------------------------------------------------------
                  Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #3 Maritime St./ Burma St.
************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.285
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):       9.0
Optimal Cycle:       58              Level Of Service:                  B
************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:   10   20   20    10   20   20    10   20   20     0    0    0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   0  0  0  0  0
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   78    0     0  287    0     0    0    5     0    0    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    5   78    0     0  287    0     0    0    5     0    0    0
Added Vol:      0  282    0     0  391  224   147    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    5  360    0     0  678  224   147    0    5     0    0    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     5  360    0     0  678  224   147    0    5     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    5  360    0     0  678  224   147    0    5     0    0    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.05 1.05  1.00 1.05 1.05  1.00 1.00 1.00  1.00 1.00 1.00
Final Vol.:     5  378    0     0  711  235   147    0    5     0    0    0
-----------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 1.00 1.00  1.00 0.96 0.96  0.95 1.00 0.85  1.00 1.00 1.00
Lanes:       1.00 2.00 0.00  1.00 1.50 0.50  1.00 0.00 1.00  0.00 0.00 0.00
Final Sat.:  1805 3800    0  1900 2742  906  1805    0 1615     0    0    0
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.10 0.00  0.00 0.26 0.26  0.08 0.00 0.00  0.00 0.00 0.00
Crit Moves:  ****                 ****             ****
Green/Cycle: 0.10 0.48 0.00  0.00 0.62 0.62  0.20 0.00 0.20  0.00 0.00 0.00
Volume/Cap:  0.03 0.21 0.00  0.00 0.42 0.42  0.41 0.00 0.02  0.00 0.00 0.00
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   26.2  9.7  0.0   0.0  6.4  6.4  22.9  0.0 20.7   0.0  0.0  0.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  26.2  9.7  0.0   0.0  6.4  6.4  22.9  0.0 20.7   0.0  0.0  0.0
Queue:          0    6    0     0   10    3     4    0    0     0    0    0
************************************************************************

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B-AM.CMD                Tue Nov 5, 1996 13:06:46                Page 7-1
------------------------------------------------------------------------
                   FISCO/Port Vision 2000 EIS/EIR
              Minimum Marine/Minimum Rail Alternative
                            AM Peak Hour
------------------------------------------------------------------------
                  Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #4 Maritime St./ 14th St.
************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.818
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      21.2
Optimal Cycle:       70              Level Of Service:                  C
************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Permitted        Permitted
Rights:          Include          Include            Ovl            Include
Min. Green:   10   20   20    10   20   20    10   20   20    10   20   20
Lanes:        1  0  1  1  0   1  0  1  1  0   0  0  1  0  0   1  0  0  1  0
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   91   39   103  261    0     0    0    0    22    0   87
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0   91   39   103  261    0     0    0    0    22    0   87
Added Vol:    392  167    0     0  251  140   115    0  364     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  392  258   39   103  512  140   115    0  364    22    0   87
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   392  258   39   103  512  140   115    0  364    22    0   87
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  392  258   39   103  512  140   115    0  364    22    0   87
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.05 1.05  1.00 1.05 1.05  1.00 1.00 1.00  1.00 1.00 1.00
Final Vol.:   392  271   41   103  537  147   115    0  364    22    0   87
-----------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.98 0.98  0.95 0.97 0.97  0.72 1.00 0.72  0.56 1.00 0.85
Lanes:       1.00 1.74 0.26  1.00 1.57 0.43  0.24 0.00 0.76  1.00 0.00 1.00
Final Sat.:  1805 3235  489  1805 2894  792   328    0 1040  1064    0 1615
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.08 0.08  0.06 0.19 0.19  0.35 0.00 0.35  0.02 0.00 0.05
Crit Moves:  ****                 ****       ****
Green/Cycle: 0.27 0.33 0.33  0.16 0.23 0.23  0.43 0.00 0.69  0.43 0.00 0.43
Volume/Cap:  0.82 0.26 0.26  0.35 0.82 0.82  0.82 0.00 0.51  0.05 0.00 0.13
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   29.7 15.9 15.9  24.2 28.2 28.2  22.5  0.0  5.1  10.8  0.0 11.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  29.7 15.9 15.9  24.2 28.2 28.2  22.5  0.0  5.1  10.8  0.0 11.2
Queue:         12    6    1     3   15    5     4    0    5     0    0    1
************************************************************************

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Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.372
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	10.8
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0	2 0	0	0 0	2 0	1	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	159	0	0	0	0	334	69	0	37	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	159	0	0	0	0	334	69	0	37	0	0	0
Added Vol:	310	489	0	0	529	86	70	0	279	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	469	489	0	0	529	420	139	0	316	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	469	489	0	0	529	420	139	0	316	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	469	489	0	0	529	420	139	0	316	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	483	514	0	0	556	420	143	0	316	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.13	0.14	0.00	0.00	0.15	0.26	0.04	0.00	0.20	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.36	0.75	0.00	0.00	0.39	0.56	0.17	0.00	0.53	0.00	0.00	0.00
Volume/Cap:	0.37	0.18	0.00	0.00	0.37	0.46	0.24	0.00	0.37	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	15.4	2.3	0.0	0.0	14.0	8.7	23.4	0.0	9.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.4	2.3	0.0	0.0	14.0	8.7	23.4	0.0	9.1	0.0	0.0	0.0
Queue:	10	4	0	0	11	7	3	0	5	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.571
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	18.9
Optimal Cycle:	68	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	15	0	0	0	0	0	0	0	0	26	0	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	0	0	0	0	0	0	0	0	26	0	54
Added Vol:	58	138	49	463	160	186	139	422	62	55	499	523
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	138	49	463	160	186	139	422	62	81	499	577
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	138	49	463	160	186	139	422	62	81	499	577
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	138	49	463	160	186	139	422	62	81	499	577
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.05	1.00
Final Vol.:	73	145	51	463	160	186	139	464	68	81	524	577
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	1.00	0.85	0.95	0.98	0.98	0.95	1.00	0.85
Lanes:	1.00	1.48	0.52	1.00	1.00	1.00	1.00	2.62	0.38	1.00	2.00	1.00
Final Sat.:	1805	2699	949	1805	1900	1615	1805	4872	714	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.26	0.08	0.12	0.08	0.10	0.10	0.04	0.14	0.36
Crit Moves:		****		****			****				****	
Green/Cycle:	0.20	0.20	0.20	0.39	0.39	0.39	0.12	0.20	0.20	0.13	0.21	0.60
Volume/Cap:	0.21	0.27	0.27	0.65	0.21	0.29	0.65	0.48	0.48	0.35	0.65	0.59
Level Of Service Module:												
Delay/Veh:	21.7	21.9	21.9	17.6	12.9	13.4	32.1	23.1	23.1	26.1	24.7	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.7	21.9	21.9	17.6	12.9	13.4	32.1	23.1	23.1	26.1	24.7	8.7
Queue:	2	3	1	11	3	4	4	11	2	2	14	10

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor Rd. / Gate 2

Cycle (sec): 100 Critical Vol./Cap. (X): 0.689
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 15.2
Optimal Cycle: 73 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	53	0	45	0	0	0	0	0	39	208	338	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	0	45	0	0	0	0	0	39	208	338	0
Added Vol:	1	0	207	0	0	0	0	202	8	300	271	0
PasserByVol:	106	0	159	0	0	0	0	0	71	106	0	0
Initial Fut:	160	0	411	0	0	0	0	202	118	614	609	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	160	0	411	0	0	0	0	202	118	614	609	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	160	0	411	0	0	0	0	202	118	614	609	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
Final Vol.:	160	0	411	0	0	0	0	213	124	614	640	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.94	0.94	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.26	0.74	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2258	1314	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.25	0.00	0.00	0.00	0.00	0.09	0.09	0.34	0.17	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.34	0.00	0.34	0.00	0.00	0.00	0.00	0.20	0.20	0.46	0.66	0.00
Volume/Cap:	0.26	0.00	0.74	0.00	0.00	0.00	0.00	0.47	0.47	0.74	0.26	0.00
Level Of Service Module:												
Delay/Veh:	15.4	0.0	22.5	0.0	0.0	0.0	0.0	23.2	23.2	16.9	4.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.4	0.0	22.5	0.0	0.0	0.0	0.0	23.2	23.2	16.9	4.6	0.0
Queue:	3	0	11	0	0	0	0	5	3	15	7	0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.618
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 47.9
Optimal Cycle: 92 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Split Phase			Split Phase			Split Phase			Split Phase	
Rights:		Include			Include			Include			Include	
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1 0 1 0			0 1 0 1 0			0 1 0 1 0			0 1 0 1 0		
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	700	0	0	966	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	700	31	26	966	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	700	31	26	966	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	700	31	26	966	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.05
Final Vol.:	8	735	33	27	1014	27	8	6	29	53	62	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.85	0.94	0.94	0.94
Lanes:	0.02	1.89	0.09	0.05	1.90	0.05	0.57	0.43	1.00	0.61	0.71	0.68
Final Sat.:	39	3563	160	96	3608	96	1053	790	1615	1089	1273	1212
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.28	0.28	0.28	0.01	0.01	0.02	0.05	0.05	0.05
Crit Moves:		****			****			****			****	
Green/Cycle:	0.20	0.20	0.20	0.28	0.28	0.28	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.02	1.02	1.02	1.02	1.02	1.02	0.04	0.04	0.09	0.24	0.24	0.24
Level Of Service Module:												
Delay/Veh:	54.6	54.6	54.6	48.4	48.4	48.4	20.8	20.8	21.1	21.8	21.8	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.6	54.6	54.6	48.4	48.4	48.4	20.8	20.8	21.1	21.8	21.8	21.8
Queue:	1	28	2	2	38	2	0	0	1	1	1	1

Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/New Middle Harbor

Cycle (sec):	100	Critical Vol./Cap. (X):	0.313
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	9.8
Optimal Cycle:	58	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0	0 1	0 0	0	0 0	0 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	122	0	0	0	0	501	0	133	609	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	122	0	0	0	0	501	0	133	609	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	122	0	0	0	0	501	0	133	609	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	122	0	0	0	0	501	0	133	609	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	0	0	122	0	0	0	0	526	0	133	639	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00	2.00	0.00
Final Sat.:	1900	0	1615	0	0	0	0	3800	0	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.14	0.00	0.07	0.17	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.44	0.00	0.24	0.68	0.00
Volume/Cap:	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.31	0.00	0.31	0.25	0.00
Level Of Service Module:												
Delay/Veh:	0.0	0.0	20.3	0.0	0.0	0.0	0.0	11.7	0.0	20.5	4.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	20.3	0.0	0.0	0.0	0.0	11.7	0.0	20.5	4.0	0.0
Queue:	0	0	3	0	0	0	0	9	0	3	7	0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.561
Loss Time (sec):	10 (Y+R = 4 sec)	Average Delay (sec/veh):	17.8
Optimal Cycle:	70	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	2 0	0	1 0	1 0	0	1 0	1 0	1	1 1	1 0	1	1 0
Volume Module:												
Base Vol:	0	33	0	16	28	47	48	394	438	0	300	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	33	0	16	28	47	48	394	438	0	300	9
Added Vol:	310	0	119	0	0	0	0	0	478	136	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	310	33	119	16	28	47	48	394	916	136	300	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	310	33	119	16	28	47	48	394	916	136	300	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	310	33	119	16	28	47	48	394	916	136	300	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.05	1.05
Final Vol.:	319	33	119	16	28	47	48	394	962	136	315	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.91	0.91	0.95	1.00	0.85	0.95	1.00	1.00
Lanes:	2.00	0.22	0.78	1.00	0.37	0.63	1.00	1.00	2.00	1.00	1.94	0.06
Final Sat.:	3610	363	1309	1805	645	1084	1805	1900	3230	1805	3694	106
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.01	0.04	0.04	0.03	0.21	0.30	0.08	0.09	0.09
Crit Moves:	****				****				****	****		
Green/Cycle:	0.13	0.22	0.22	0.11	0.20	0.20	0.19	0.45	0.45	0.11	0.38	0.38
Volume/Cap:	0.66	0.41	0.41	0.08	0.22	0.22	0.14	0.46	0.66	0.66	0.23	0.23
Level Of Service Module:												
Delay/Veh:	28.9	21.9	21.9	25.7	21.7	21.7	21.9	12.3	14.4	32.5	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.9	21.9	21.9	25.7	21.7	21.7	21.9	12.3	14.4	32.5	13.7	13.7
Queue:	9	1	3	0	1	1	1	8	21	4	6	0

Table J.7-5 (Continued)

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B-AM.CMD                 Tue Nov 5, 1996 13:06:46                  Page 14-1
-----------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                  Minimum Marine/Minimum Rail Alternative
                               AM Peak Hour
-----------------------------------------------------------------------------
                     Level Of Service Computation Report
            1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.731
Loss Time (sec):     12 (Y+R =  4 sec) Average Delay (sec/veh):      20.8
Optimal Cycle:       82              Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:            Ovl             Include          Include          Include
Min. Green:   10    20    20   10    20    20   10    10    20   10    20    20
Lanes:       1  0  1  1  0    1  0  1  1  0    1  1  0  1  0    1  0  0  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0    72   109   165   256    51     0     0   169   364
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    72   109   165   256    51     0     0   169   364
Added Vol:    125   123   451     0   189     0     0     0   207   569     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  125   123   451    72   298   165   256    51   207   569   169   364
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.50
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   125   123   451    72   298   165   256    51   207   569   169   182
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  125   123   451    72   298   165   256    51   207   569   169   182
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.05  1.05  1.05  1.00  1.00  1.00  1.05  1.05
Final Vol.:   125   123   451    72   313   173   269    51   207   569   177   191
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.95  1.00  0.85  0.95  0.95  0.95  0.95  0.88  0.88  0.95  0.92  0.92
Lanes:       1.00  1.00  1.00  1.00  1.29  0.71  1.66  0.34  1.00  1.00  0.96  1.04
Final Sat.:  1805  1900  1615  1805  2325  1285  2997   568  1672  1805  1682  1815
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07  0.06  0.28  0.04  0.13  0.13  0.09  0.09  0.12  0.32  0.11  0.11
Crit Moves:  ****                    ****                    ****  ****
Green/Cycle: 0.10  0.20  0.58  0.10  0.20  0.20  0.20  0.20  0.20  0.38  0.38  0.38
Volume/Cap:  0.69  0.32  0.48  0.40  0.67  0.67  0.45  0.45  0.62  0.83  0.28  0.28
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   35.4  22.1   8.2  28.0  25.6  25.6  22.9  22.9  24.6  24.0  13.9  13.9
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  35.4  22.1   8.2  28.0  25.6  25.6  22.9  22.9  24.6  24.0  13.9  13.9
Queue:          4     3     7     2     8     5     7     1     6    16     3     4
*****************************************************************************

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B-AM.CMD                 Tue Nov 5, 1996 13:06:46                  Page 15-1
-----------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                  Minimum Marine/Minimum Rail Alternative
                               AM Peak Hour
-----------------------------------------------------------------------------
                     Level Of Service Computation Report
            1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #14 Union St./ 5th St./ I-880 North Ramps
*****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.146
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):      17.2
Optimal Cycle:       71              Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:    0    20    20    0    20    20   10    20    20   10    20    20
Lanes:       0  0  1  1  1    0  0  1  1  0    0  1  0  1  0    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   175    45     0   154    31    24    43    13   205    31   115
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0   175    45     0   154    31    24    43    13   205    31   115
Added Vol:      0     0   207     0     0     0     0     0     0   125     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0   175   252     0   154    31    24    43    13   330    31   115
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     0   175   252     0   154    31    24    43    13   330    31   115
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0   175   252     0   154    31    24    43    13   330    31   115
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.10  1.10  1.00  1.05  1.05  1.05  1.05  1.05  1.00  1.00  1.00
Final Vol.:     0   193   278     0   162    33    25    45    14   330    31   115
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  1.00  0.91  0.91  1.00  0.97  0.97  0.96  0.96  0.96  0.95  1.00  0.85
Lanes:       0.00  1.23  1.77  0.00  1.66  0.34  0.60  1.07  0.33  1.00  1.00  1.00
Final Sat.:     0  2125  3062     0  3062   624  1086  1955   608  1805  1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.09  0.09  0.00  0.05  0.05  0.02  0.02  0.02  0.18  0.02  0.07
Crit Moves:        ****        ****                    ****              ****
Green/Cycle: 0.00  0.23  0.23  0.00  0.23  0.23  0.20  0.20  0.20  0.46  0.46  0.46
Volume/Cap:  0.00  0.40  0.40  0.00  0.23  0.23  0.12  0.12  0.12  0.40  0.04  0.15
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0  21.2  21.2   0.0  20.3  20.3  21.2  21.2  21.2  11.7   9.5  10.1
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0  21.2  21.2   0.0  20.3  20.3  21.2  21.2  21.2  11.7   9.5  10.1
Queue:          0     5     7     0     4     1     1     1     0     6     0     2
*****************************************************************************

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Table J.7-5 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.576
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 21.7
Optimal Cycle: 70 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	2 0 0 1 0			1 0 0 0 2			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	548	21	17	0	94	0	16	0	0	62	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	548	21	17	0	94	0	16	0	0	62	1
Added Vol:	679	0	0	0	0	379	332	13	0	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	679	548	21	17	0	473	332	29	0	0	81	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	679	548	21	17	0	473	332	29	0	0	81	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	679	548	21	17	0	473	332	29	0	0	81	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.13	1.00	1.05	1.00	1.00	1.05	1.05
Final Vol.:	699	548	21	17	0	534	332	30	0	0	85	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	0.96	0.04	1.00	0.00	2.00	1.00	2.00	0.00	0.00	1.98	0.02
Final Sat.:	3610	1812	69	1805	0	3230	1805	3800	0	0	3756	44
Capacity Analysis Module:												
Vol/Sat:	0.19	0.30	0.30	0.01	0.00	0.17	0.18	0.01	0.00	0.00	0.02	0.02
Crit Moves:		****		****			****				****	
Green/Cycle:	0.27	0.37	0.37	0.10	0.00	0.43	0.23	0.43	0.00	0.00	0.20	0.20
Volume/Cap:	0.71	0.81	0.81	0.09	0.00	0.39	0.81	0.02	0.00	0.00	0.11	0.11
Level Of Service Module:												
Delay/Veh:	22.8	23.2	23.2	26.4	0.0	12.8	31.7	10.7	0.0	0.0	21.2	21.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.8	23.2	23.2	26.4	0.0	12.8	31.7	10.7	0.0	0.0	21.2	21.2
Queue:	18	15	1	0	0	10	10	0	0	0	2	0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.403
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 1.4
Optimal Cycle: 35 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	20	20	10	20	20
Lanes:	0 0 0 0 0			0 0 0 0 0			0 0 2 0 1			2 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	65	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	65	0	0
Added Vol:	0	0	0	0	0	0	0	345	589	0	1077	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	345	589	65	1077	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	345	589	65	1077	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	345	589	65	1077	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.03	1.05	1.00
Final Vol.:	0	0	0	0	0	0	0	362	589	67	1131	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3800	1615	3610	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.36	0.02	0.30	0.00
Crit Moves:									****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.85	0.10	0.95	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.43	0.19	0.31	0.00
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	26.7	0.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	26.7	0.1	0.0
Queue:	0	0	0	0	0	0	0	2	4	2	2	0

Table J.7-5 (Continued)

```
B-AM.CMD                 Tue Nov 5, 1996 13:06:46                  Page 18-1
-----------------------------------------------------------------------------
                       FISCO/Port Vision 2000 EIS/EIR
                 Minimum Marine/Minimum Rail Alternative
                               AM Peak Hour
-----------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
*****************************************************************************
Average Delay (sec/veh):       3.2          Worst Case Level Of Service:    C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0    89    30    0     0     0    0     0   140    0     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0    89    30    0     0     0    0     0   140    0     6
Added Vol:      0  332     0     0  379     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  332    89    30  379     0     0    0     0   140    0     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  332    89    30  379     0     0    0     0   140    0     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0  332    89    30  379     0     0    0     0   140    0     6
Adjusted Volume Module:
Grade:            0%               0%               0%               0%
% Cycle/Cars:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:     1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:       0  332    89    33  379     0     0    0     0   154    0     7
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx   2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx   5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   421 xxxx xxxxx  xxxx xxxx xxxxx   785 xxxx   210
Potent Cap.: xxxx xxxx xxxxx  1019 xxxx xxxxx  xxxx xxxx xxxxx   333 xxxx  1083
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.97 xxxx  1.00
Move Cap.:   xxxx xxxx xxxxx  1019 xxxx xxxxx  xxxx xxxx xxxxx   322 xxxx  1083
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   3.6 xxxx xxxxx xxxxx xxxx xxxxx  19.7 xxxx   3.3
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:        0.0              0.3              0.0             19.0

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B-AM.CMD                 Tue Nov 5, 1996 13:06:46                  Page 19-1
-----------------------------------------------------------------------------
                       FISCO/Port Vision 2000 EIS/EIR
                 Minimum Marine/Minimum Rail Alternative
                               AM Peak Hour
-----------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
*****************************************************************************
Cycle (sec):          100                Critical Vol./Cap. (X):        0.498
Loss Time (sec):       11 (Y+R =  4 sec) Average Delay (sec/veh):        21.1
Optimal Cycle:         81                Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Split Phase      Split Phase       Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   20    20    10   20    20
Lanes:        1  0  1  1  0    1  1  0  1  0    1  0  1  1  0    1  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    0     0   678   48     6    65  234    12     0  152   449
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9    0     0   678   48     6    65  234    12     0  152   449
Added Vol:      0  212   120     0  239     0     0  119     0   140  136     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  212   120   678  287     6    65  353    12   140  288   449
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  212   120   678  287     6    65  353    12   140  288   449
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    9  212   120   678  287     6    65  353    12   140  288   449
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05  1.05 1.00  1.00  1.00 1.05  1.05  1.00 1.10  1.10
Final Vol.:     9  222   126   712  287     6    65  371    13   140  317   494
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.95  0.95 1.00  1.00  0.95 1.00  1.00  0.95 0.91  0.91
Lanes:       1.00 1.28  0.72  2.00 0.98  0.02  1.00 1.93  0.07  1.00 1.17  1.83
Final Sat.:  1805 2303  1307  3610 1861    39  1805 3671   129  1805 2027  3160
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.10  0.10  0.20 0.15  0.15  0.04 0.10  0.10  0.08 0.16  0.16
Crit Moves:       ****              ****       ****                   ****
Green/Cycle: 0.20 0.20  0.20  0.33 0.33  0.33  0.10 0.24  0.24  0.12 0.26  0.26
Volume/Cap:  0.02 0.48  0.48  0.60 0.47  0.47  0.36 0.42  0.42  0.64 0.60  0.60
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   20.8 23.3  23.3  18.5 17.3  17.3  27.7 20.9  20.9  31.5 21.5  21.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.8 23.3  23.3  18.5 17.3  17.3  27.7 20.9  20.9  31.5 21.5  21.5
Queue:          0    6     3    17    6     0     2    9     0     4    8    12
*****************************************************************************

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Table J.7-6

B-PM.CMD Tue Nov 5, 1996 12:31:19 Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	391.00	Employees	0.06	0.22	23	86	109	2.3
	Zone 1 Subtotal					23	86	109	2.3
2	Hrbr Trns Ct	400.00	Employees	0.06	0.21	24	84	108	2.3
	Zone 2 Subtotal					24	84	108	2.3
3	J.I.T.	167.00	Employees	0.10	0.36	17	60	77	1.7
	Zone 3 Subtotal					17	60	77	1.7
4	SP Rail Term	150.00	Employees	0.10	0.36	15	54	69	1.5
	Zone 4 Subtotal					15	54	69	1.5
5	UP Rail Term	67.00	Employees	0.10	0.36	7	24	31	0.7
	Zone 5 Subtotal					7	24	31	0.7
6	Middle Harbr	516.00	Employees	0.06	0.22	31	114	145	3.1
	Zone 6 Subtotal					31	114	145	3.1
7	7th St Harbr	613.00	Employees	0.06	0.22	37	135	172	3.7
	Zone 7 Subtotal					37	135	172	3.7
8	Outer Harbor	792.00	Employees	0.06	0.21	48	166	214	4.6
	Zone 8 Subtotal					48	166	214	4.6
10	New Park	1.00	Total Trips	16.00	38.00	16	38	54	1.2
	Zone 10 Subtotal					16	38	54	1.2
11	New Harbor	1.00	Trucks Inter	38.00	45.00	38	45	83	1.8
	Zone 11 Subtotal					38	45	83	1.8
16	Middle Harbr	1.00	Trucks Inter	50.00	59.00	50	59	109	2.3
	Zone 16 Subtotal					50	59	109	2.3
17	7th St Harbr	1.00	Trucks Inter	59.00	71.00	59	71	130	2.8
	Zone 17 Subtotal					59	71	130	2.8
18	Outer Harbor	1.00	Trucks Inter	76.00	91.00	76	91	167	3.6
	Zone 18 Subtotal					76	91	167	3.6
21	New Harbor	1.00	Truck External	185.00	222.00	185	222	407	8.8
	Zone 21 Subtotal					185	222	407	8.8
23	J.I.T.	1.00	Truck External	161.00	193.00	161	193	354	7.6

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B-PM.CMD Tue Nov 5, 1996 12:31:19 Page 1-2

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 23 Subtotal					161	193	354	7.6
24	SP Rail Term	1.00	Truck External	144.00	172.00	144	172	316	6.8
	Zone 24 Subtotal					144	172	316	6.8
25	UP Rail Term	1.00	Truck External	48.00	58.00	48	58	106	2.3
	Zone 25 Subtotal					48	58	106	2.3
26	Middle Harbr	1.00	Truck External	244.00	293.00	244	293	537	11.5
	Zone 26 Subtotal					244	293	537	11.5
27	7th St Harbr	1.00	Truck External	290.00	348.00	290	348	638	13.7
	Zone 27 Subtotal					290	348	638	13.7
28	Outer Harbor	1.00	Truck External	375.00	449.00	375	449	824	17.7
	Zone 28 Subtotal					375	449	824	17.7
TOTAL						1888	2762	4650	100.0

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Table J.7-6 (Continued)

B-PM.CMD Tue Nov 5, 1996 12:31:19 Page 2-1

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
2	0.0	0.0	0.0	10.0	30.0	7.0	19.0	19.0	15.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
4	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
5	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
16	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
17	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
18	45.7	40.6	13.7	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
24	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
25	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

B-PM.CMD Tue Nov 5, 1996 12:31:19 Page 3-1

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Turning Movement Report
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime St./ Burma St.													
Base	5	590	0	0	109	0	0	0	50	0	0	0	754
Added	0	362	0	0	230	122	201	0	0	0	0	0	916
Total	5	952	0	0	339	122	201	0	50	0	0	0	1670
#4 Maritime St./ 14th St.													
Base	0	414	28	105	132	0	0	0	0	92	0	290	1061
Added	285	232	0	0	139	92	130	0	374	0	0	0	1253
Total	285	646	28	105	271	92	130	0	374	92	0	290	2314
#5 Maritime St./ 7th St. Extension													
Base	36	0	0	0	0	75	223	0	74	0	0	0	408
Added	236	445	0	0	449	64	73	0	282	0	0	0	1548
Total	272	445	0	0	449	139	296	0	356	0	0	0	1956
#6 7th St./ 7th St. Extension													
Base	0	0	0	31	18	0	0	0	19	0	0	0	68
Added	47	142	53	498	121	112	173	489	57	40	338	365	2436
Total	47	142	53	529	139	112	173	489	76	40	338	365	2504
#7 Middle Harbor Rd. / Gate 2													
Base	95	0	229	0	0	0	0	215	131	94	88	0	852
Added	6	0	304	0	0	0	0	205	2	136	214	0	866
PassBy	76	0	106	0	0	0	0	0	106	159	0	0	447
Total	177	0	639	0	0	0	0	420	239	389	302	0	2165
#8 Adeline St./ 3rd St.													
Base	36	0	122	43	0	15	30	14	13	89	39	78	479
Added	0	891	0	0	570	0	0	0	0	0	0	0	1462
Total	36	891	122	43	570	15	30	14	13	89	39	78	1941
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	1	1
Added	0	0	127	0	0	0	0	592	0	95	402	0	1217
Total	0	0	127	0	0	0	0	592	0	95	402	1	1218
#10													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	127	0	0	0	0	0	0	206	95	37	183	0	649
Total	127	0	0	0	0	0	0	206	95	37	183	0	649
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	23	0	9	23	23	20	454	210	0	624	13	1399
Added	435	0	129	0	0	0	0	0	258	95	0	0	916
Total	435	23	129	9	23	23	20	454	468	95	624	13	2315

Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	241	0	69	138	157	0	0	202	616	1423
Added	186	172	533	0	102	0	0	0	105	363	0	0	1462
Total	186	172	533	241	102	69	138	157	105	363	202	616	2885
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	194	281	0	144	30	31	97	18	32	31	34	892
Added	0	0	105	0	0	0	0	0	0	186	0	0	291
Total	0	194	386	0	144	30	31	97	18	218	31	34	1183
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	197	3	2	0	205	0	108	0	0	53	1	569
Added	466	0	0	0	0	266	378	18	0	0	11	0	1139
Total	466	197	3	2	0	471	378	126	0	0	64	1	1708
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	7	378	0	0	385
Added	0	0	0	0	0	0	0	396	645	0	742	0	1783
Total	0	0	0	0	0	0	0	396	652	378	742	0	2168
#17 14th St./ I-880 Frontage Rd.													
Base	0	62	130	4	0	0	0	0	0	115	0	7	318
Added	0	378	0	0	266	0	0	0	0	0	0	0	644
Total	0	440	130	4	266	0	0	0	0	115	0	7	962
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	75	72	0	759	0	6	86	277	3	0	456	330	2064
Added	0	229	149	0	168	0	0	129	0	98	95	0	868
Total	75	301	149	759	168	6	86	406	3	98	551	330	2932
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	102	0	0	0	0	253	0	122	178	0	654
Total	0	0	102	0	0	0	0	253	0	122	178	0	654
#138													
Base	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
Added	0	82	0	0	55	36	31	0	0	0	0	0	204
Total	0	-86	0	0	-68	12	11	0	0	0	0	0	-131
#158													
Base	0	-259	-163	0	0	0	0	0	0	0	0	0	-422
Added	0	309	179	0	0	0	0	0	0	0	0	0	488
Total	0	50	16	0	0	0	0	0	0	0	0	0	66

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#159													
Base	-259	0	0	0	0	0	0	0	0	0	-105	0	-364
Added	309	0	0	0	0	0	0	0	0	0	114	0	423
Total	50	0	0	0	0	0	0	0	0	0	9	0	59
#160													
Base	0	0	0	0	0	0	0	0	0	-105	-259	0	-364
Added	0	0	0	0	0	0	0	0	0	114	309	0	423
Total	0	0	0	0	0	0	0	0	0	9	50	0	59
#161													
Base	0	0	0	0	-105	0	0	0	-150	0	0	0	-255
Added	0	0	0	0	114	0	0	0	173	0	0	0	287
Total	0	0	0	0	9	0	0	0	23	0	0	0	32
#165													
Base	0	0	0	0	-126	0	0	0	-534	0	0	0	-660
Added	0	0	0	0	105	0	0	0	645	0	0	0	750
Total	0	0	0	0	-21	0	0	0	111	0	0	0	90
#170													
Base	0	-205	-391	0	0	0	0	0	0	0	0	0	-596
Added	0	186	466	0	0	0	0	0	0	0	0	0	652
Total	0	-19	75	0	0	0	0	0	0	0	0	0	56
#177													
Base	0	0	0	0	-214	0	0	-163	0	0	0	0	-377
Added	0	0	0	0	244	0	0	179	0	0	0	0	422
Total	0	0	0	0	30	0	0	16	0	0	0	0	45
#178													
Base	0	-323	0	0	0	0	-116	-47	0	0	0	0	-486
Added	0	363	0	0	0	0	118	61	0	0	0	0	541
Total	0	40	0	0	0	0	2	14	0	0	0	0	55
#182													
Base	0	-439	0	0	0	-297	0	0	0	0	0	0	-736
Added	0	481	0	0	0	327	0	0	0	0	0	0	808
Total	0	42	0	0	0	30	0	0	0	0	0	0	72
#201													
Base	0	0	0	0	0	0	0	-1043	0	0	0	0	-104
Added	0	0	0	0	0	0	0	1178	0	0	0	0	1178
Total	0	0	0	0	0	0	0	135	0	0	0	0	135

Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#204													
Base	0	0	0	-375	-668	0	0	0	0	0	0	0	-1043
Added	0	0	0	415	763	0	0	0	0	0	0	0	1178
Total	0	0	0	40	95	0	0	0	0	0	0	0	135
#207													
Base	0	-463	0	0	0	0	0	0	0	0	0	-278	-741
Added	0	521	0	0	0	0	0	0	0	0	0	308	829
Total	0	58	0	0	0	0	0	0	0	0	0	30	88
#214													
Base	0	0	0	0	0	0	0	0	0	-350	-391	0	-741
Added	0	0	0	0	0	0	0	0	0	363	466	0	829
Total	0	0	0	0	0	0	0	0	0	13	75	0	88
#217													
Base	0	0	0	0	-19	0	0	-47	0	0	0	0	-66
Added	0	0	0	0	15	0	0	61	0	0	0	0	75
Total	0	0	0	0	-4	0	0	14	0	0	0	0	9
#218													
Base	0	-39	0	0	0	0	-31	-16	0	0	0	0	-86
Added	0	33	0	0	0	0	42	18	0	0	0	0	93
Total	0	-6	0	0	0	0	11	2	0	0	0	0	7
#219													
Base	0	-70	0	0	0	0	0	0	0	0	-5	0	-75
Added	0	75	0	0	0	0	0	0	0	0	5	0	80
Total	0	5	0	0	0	0	0	0	0	0	0	0	5
#220													
Base	0	0	0	0	-19	-18	0	0	0	0	-5	0	-42
Added	0	0	0	0	15	25	0	0	0	0	5	0	46
Total	0	0	0	0	-4	7	0	0	0	0	0	0	4
#225													
Base	0	0	0	0	0	0	0	0	0	0	-278	-5	-283
Added	0	0	0	0	0	0	0	0	0	0	308	5	314
Total	0	0	0	0	0	0	0	0	0	0	30	0	31
#226													
Base	0	0	0	-16	0	0	0	-375	0	0	0	0	-391
Added	0	0	0	18	0	0	0	415	0	0	0	0	433
Total	0	0	0	2	0	0	0	40	0	0	0	0	42

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#244													
Base	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609
Added	0	0	0	0	0	226	159	108	0	0	91	0	584
Total	0	0	0	0	0	-76	-67	64	0	0	54	0	-25

Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Link Volume Report
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	595	159	754	109	590	699	50	5	55	0	0	0	1508
Added	362	230	593	352	564	916	201	122	323	0	0	0	1833
Total	957	389	1347	461	1154	1615	251	127	378	0	0	0	3341
#4 Maritime St./ 14th St.													
Base	442	224	666	237	704	941	0	0	0	382	133	515	2122
Added	517	513	1031	230	362	593	505	377	882	0	0	0	2505
Total	959	737	1697	467	1066	1534	505	377	882	382	133	515	4627
#5 Maritime St./ 7th St. Extension													
Base	36	74	110	75	223	298	297	111	408	0	0	0	816
Added	680	731	1411	513	517	1031	355	300	654	0	0	0	3097
Total	716	805	1521	588	740	1329	652	411	1062	0	0	0	3913
#6 7th St./ 7th St. Extension													
Base	0	37	37	49	0	49	19	0	19	0	31	31	136
Added	243	217	460	731	680	1411	719	497	1217	742	1041	1783	4872
Total	243	254	497	780	680	1460	738	497	1236	742	1072	1814	5008
#7 Middle Harbor Rd. / Gate 2													
Base	324	225	549	0	0	0	346	183	529	182	444	626	1704
Added	310	138	447	0	0	0	206	220	426	350	508	858	1731
Total	634	363	996	0	0	0	552	403	955	532	952	1484	3435
#8 Adeline St./ 3rd St.													
Base	158	102	260	58	108	166	57	90	147	206	179	385	958
Added	891	570	1462	570	891	1462	0	0	0	0	0	0	2923
Total	1049	672	1722	628	999	1628	57	90	147	206	179	385	3881
#9 7th/New Middle Harbor													
Base	0	0	0	0	1	1	0	0	0	1	0	1	2
Added	127	95	223	0	0	0	592	402	994	497	719	1217	2434
Total	127	95	223	0	1	1	592	402	994	498	719	1218	2436
#10													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	127	132	260	0	0	0	302	310	612	220	206	426	1298
Total	127	132	260	0	0	0	302	310	612	220	206	426	1298
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	23	233	256	55	56	111	684	647	1331	637	463	1100	2798
Added	564	352	916	0	0	0	258	435	693	95	129	224	1833
Total	587	585	1172	55	56	111	942	1082	2024	732	592	1324	4631

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	310	754	1064	295	271	566	818	398	1216	2846
Added	891	570	1462	102	172	274	105	186	291	363	533	897	2923
Total	891	570	1462	412	926	1338	400	457	857	1181	931	2113	5769
#14 Union St./ 5th St./ I-880 North Ramps													
Base	475	194	669	174	259	433	146	61	207	97	378	475	1784
Added	105	186	291	0	0	0	0	0	0	186	105	291	582
Total	580	380	960	174	259	433	146	61	207	283	483	766	2366
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	200	0	200	207	198	405	108	258	366	54	113	167	1138
Added	466	0	466	266	378	644	396	742	1139	11	18	29	2277
Total	666	0	666	473	576	1049	504	1000	1505	65	131	196	3415
#16 7th St./ I-880 SB Ramps													
Base	0	385	385	0	0	0	7	0	7	378	0	378	770
Added	0	645	645	0	0	0	1041	742	1783	742	396	1139	3566
Total	0	1030	1030	0	0	0	1048	742	1790	1120	396	1517	4336
#17 14th St./ I-880 Frontage Rd.													
Base	192	115	307	4	69	73	0	0	0	122	134	256	636
Added	378	266	644	266	378	644	0	0	0	0	0	0	1288
Total	570	381	951	270	447	717	0	0	0	122	134	256	1924
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	147	3	150	765	488	1253	366	537	903	786	1036	1822	4128
Added	378	266	644	168	229	397	129	95	224	193	278	470	1735
Total	525	269	794	933	717	1650	495	632	1127	979	1314	2292	5863
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	102	122	223	0	0	0	253	178	431	300	355	654	1309
Total	102	122	223	0	0	0	253	178	431	300	355	654	1309
#138													
Base	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
Added	82	55	137	91	113	204	31	36	67	0	0	0	408
Total	-86	-68	-154	-56	-75	-131	11	12	23	0	0	0	-262
#158													
Base	-422	0	-422	0	-259	-259	0	0	0	0	-163	-163	-844
Added	488	0	488	0	309	309	0	0	0	0	179	179	975
Total	66	0	66	0	50	50	0	0	0	0	16	16	131

Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#159													
Base	-259	0	-259	0	0	0	0	-364	-364	-105	0	-105	-728
Added	309	0	309	0	0	0	0	423	423	114	0	114	846
Total	50	0	50	0	0	0	0	59	59	9	0	9	118
#160													
Base	0	-105	-105	0	0	0	0	-259	-259	-364	0	-364	-728
Added	0	114	114	0	0	0	0	309	309	423	0	423	846
Total	0	9	9	0	0	0	0	50	50	59	0	59	118
#161													
Base	0	-255	-255	-105	0	-105	-150	0	-150	0	0	0	-510
Added	0	287	287	114	0	114	173	0	173	0	0	0	573
Total	0	32	32	9	0	9	23	0	23	0	0	0	63
#165													
Base	0	-660	-660	-126	0	-126	-534	0	-534	0	0	0	-1320
Added	0	750	750	105	0	105	645	0	645	0	0	0	1499
Total	0	90	90	-21	0	-21	111	0	111	0	0	0	179
#170													
Base	-596	0	-596	0	-205	-205	0	0	0	0	-391	-391	-1192
Added	652	0	652	0	186	186	0	0	0	0	466	466	1304
Total	56	0	56	0	-19	-19	0	0	0	0	75	75	112
#177													
Base	0	-214	-214	-214	0	-214	-163	0	-163	0	-163	-163	-754
Added	0	244	244	244	0	244	179	0	179	0	179	179	845
Total	0	30	30	30	0	30	16	0	16	0	16	16	91
#178													
Base	-323	0	-323	0	-439	-439	-163	0	-163	0	-47	-47	-972
Added	363	0	363	0	481	481	179	0	179	0	61	61	1083
Total	40	0	40	0	42	42	16	0	16	0	14	14	111
#182													
Base	-439	0	-439	-297	-439	-736	0	-297	-297	0	0	0	-1472
Added	481	0	481	327	481	808	0	327	327	0	0	0	1615
Total	42	0	42	30	42	72	0	30	30	0	0	0	143
#201													
Base	0	0	0	0	0	0	-1043	0	-1043	0	-1043	-1043	-208
Added	0	0	0	0	0	0	1178	0	1178	0	1178	1178	2356
Total	0	0	0	0	0	0	135	0	135	0	135	135	270

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#204													
Base	0	-668	-668	-1043	0	-1043	0	0	0	0	-375	-375	-2086
Added	0	763	763	1178	0	1178	0	0	0	0	415	415	2356
Total	0	95	95	135	0	135	0	0	0	0	40	40	270
#207													
Base	-463	0	-463	0	-741	-741	0	0	0	-278	0	-278	-1482
Added	521	0	521	0	829	829	0	0	0	308	0	308	1659
Total	58	0	58	0	88	88	0	0	0	30	0	30	177
#214													
Base	0	-350	-350	0	0	0	0	-391	-391	-741	0	-741	-1482
Added	0	363	363	0	0	0	0	466	466	829	0	829	1659
Total	0	13	13	0	0	0	0	75	75	88	0	88	177
#217													
Base	0	-19	-19	-19	0	-19	-47	0	-47	0	-47	-47	-132
Added	0	15	15	15	0	15	61	0	61	0	61	61	151
Total	0	-4	-4	-4	0	-4	14	0	14	0	14	14	19
#218													
Base	-39	0	-39	0	-70	-70	-47	0	-47	0	-16	-16	-172
Added	33	0	33	0	75	75	61	0	61	0	18	18	187
Total	-6	0	-6	0	5	5	14	0	14	0	2	2	15
#219													
Base	-70	0	-70	0	-70	-70	0	-5	-5	-5	0	-5	-150
Added	75	0	75	0	75	75	0	5	5	5	0	5	161
Total	5	0	5	0	5	5	0	0	0	0	0	0	11
#220													
Base	0	-19	-19	-37	0	-37	0	-23	-23	-5	0	-5	-84
Added	0	15	15	40	0	40	0	31	31	5	0	5	91
Total	0	-4	-4	3	0	3	0	8	8	0	0	0	7
#225													
Base	0	0	0	0	-5	-5	0	-278	-278	-283	0	-283	-566
Added	0	0	0	0	5	5	0	308	308	314	0	314	627
Total	0	0	0	0	0	0	0	30	30	31	0	31	61
#226													
Base	0	0	0	-16	0	-16	-375	0	-375	0	-391	-391	-782
Added	0	0	0	18	0	18	415	0	415	0	433	433	866
Total	0	0	0	2	0	2	40	0	40	0	42	42	84

Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#244													
Base	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218
Added	0	0	0	226	159	385	267	317	584	91	108	199	1167
Total	0	0	0	-76	-67	-143	-3	-22	-25	54	64	118	-51

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 3 Maritime St./ Burma St.	B	7.2	0.211	B	10.0	0.320	+ 2.848 D/V
# 4 Maritime St./ 14th St.	C	15.9	0.392	C	22.3	0.831	+ 6.369 D/V
# 5 Maritime St./ 7th St. Extensio	B	5.8	0.080	B	12.0	0.375	+ 6.247 D/V
# 6 7th St./ 7th St. Extension	B	5.8	0.018	C	20.1	0.585	+14.262 D/V
# 7 Middle Harbor Rd. / Gate 2	B	13.5	0.296	C	20.6	0.803	+ 7.150 D/V
# 8 Adeline St./ 3rd St.	C	20.4	0.084	E	46.7	0.618	+26.342 D/V
# 9 7th/New Middle Harbor	C	15.8	0.000	B	9.7	0.321	-6.172 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.4	0.237	C	19.0	0.440	+ 6.603 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	17.6	0.328	C	21.0	0.577	+ 3.404 D/V
# 14 Union St./ 5th St./ I-880 Nort	B	12.5	0.178	C	16.2	0.205	+ 3.749 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	11.5	0.135	C	18.1	0.400	+ 6.671 D/V
# 16 7th St./ I-880 SB Ramps	A	2.6	0.113	B	5.7	0.538	+ 3.109 D/V
# 17 14th St./ I-880 Frontage Rd.	A	1.9	0.000	C	2.2	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	21.1	0.505	C	21.9	0.652	+ 0.828 D/V

Table J.7-6 (Continued)

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B-PM.CMD                Tue Nov 5, 1996 12:31:20                  Page 6-1
--------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                   Minimum Marine/Minimum Rail Alternative
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Maritime St./ Burma St.
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.320
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):       10.0
Optimal Cycle:        58               Level Of Service:                 B
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:   10   20    20   10   20    20   10   20    20    0    0     0
Lanes:         1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5  590     0    0  109     0    0    0    50    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    5  590     0    0  109     0    0    0    50    0    0     0
Added Vol:      0  362     0    0  230   122  201    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    5  952     0    0  339   122  201    0    50    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     5  952     0    0  339   122  201    0    50    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    5  952     0    0  339   122  201    0    50    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05 1.00 1.05  1.05 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:     5 1000     0    0  356   128  201    0    50    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 1.00  1.00 1.00 0.96  0.96 0.95 1.00  0.85 1.00 1.00  1.00
Lanes:       1.00 2.00  0.00 1.00 1.47  0.53 1.00 0.00  1.00 0.00 0.00  0.00
Final Sat.:  1805 3800     0 1900 2683   965 1805    0  1615    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.26  0.00 0.00 0.13  0.13 0.11 0.00  0.03 0.00 0.00  0.00
Crit Moves:       ****       ****                           ****
Green/Cycle: 0.24 0.62  0.00 0.00 0.48  0.48 0.20 0.00  0.20 0.00 0.00  0.00
Volume/Cap:  0.01 0.42  0.00 0.00 0.28  0.28 0.56 0.00  0.15 0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   18.7  6.4   0.0  0.0 10.1  10.1 24.7  0.0  21.4  0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  18.7  6.4   0.0  0.0 10.1  10.1 24.7  0.0  21.4  0.0  0.0   0.0
Queue:          0   14     0    0    6     2    5    0     1    0    0     0
********************************************************************************

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B-PM.CMD                Tue Nov 5, 1996 12:31:20                  Page 7-1
--------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                   Minimum Marine/Minimum Rail Alternative
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Maritime St./ 14th St.
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.831
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):       22.3
Optimal Cycle:        73               Level Of Service:                 C
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Permitted        Permitted
Rights:          Include          Include            Ovl            Include
Min. Green:   10   20    20   10   20    20   10   20    20   10   20    20
Lanes:         1  0  1  1  0   1  0  1  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  414    28  105  132     0    0    0     0   92    0   290
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0  414    28  105  132     0    0    0     0   92    0   290
Added Vol:    285  232     0    0  139    92  130    0   374    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  285  646    28  105  271    92  130    0   374   92    0   290
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   285  646    28  105  271    92  130    0   374   92    0   290
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  285  646    28  105  271    92  130    0   374   92    0   290
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05 1.00 1.05  1.05 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:   285  678    29  105  284    96  130    0   374   92    0   290
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.99  0.99 0.95 0.96  0.96 0.53 1.00  0.53 0.37 1.00  0.85
Lanes:       1.00 1.92  0.08 1.00 1.49  0.51 0.26 0.00  0.74 1.00 0.00  1.00
Final Sat.:  1805 3608   154 1805 2726   922  259    0   744  703    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.19  0.19 0.06 0.10  0.10 0.50 0.00  0.50 0.13 0.00  0.18
Crit Moves:  ****                 ****       ****
Green/Cycle: 0.17 0.25  0.25 0.12 0.20  0.20 0.55 0.00  0.72 0.55 0.00  0.55
Volume/Cap:  0.92 0.76  0.76 0.47 0.52  0.52 0.92 0.00  0.70 0.24 0.00  0.33
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   48.1 25.0  25.0 27.5 23.6  23.6 27.9  0.0   7.2  7.7  0.0   8.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  48.1 25.0  25.0 27.5 23.6  23.6 27.9  0.0   7.2  7.7  0.0   8.1
Queue:         10   18     1    3    7     3    5    0     6    1    0     4
********************************************************************************

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Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.375
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 12.0
Optimal Cycle: 48 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0 2 0 0			0 0 2 0 1			2 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	36	0	0	0	0	75	223	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	0	0	0	75	223	0	74	0	0	0
Added Vol:	236	445	0	0	449	64	73	0	282	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	272	445	0	0	449	139	296	0	356	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	272	445	0	0	449	139	296	0	356	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	272	445	0	0	449	139	296	0	356	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	280	467	0	0	472	139	305	0	356	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.00	0.00	0.12	0.09	0.08	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.22	0.58	0.00	0.00	0.35	0.70	0.34	0.00	0.57	0.00	0.00	0.00
Volume/Cap:	0.35	0.21	0.00	0.00	0.35	0.12	0.25	0.00	0.39	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	21.3	6.6	0.0	0.0	15.4	3.2	15.2	0.0	8.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.3	6.6	0.0	0.0	15.4	3.2	15.2	0.0	8.0	0.0	0.0	0.0
Queue:	7	6	0	0	10	1	6	0	6	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.585
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.1
Optimal Cycle: 68 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 0 1		
Volume Module:												
Base Vol:	0	0	0	31	18	0	0	0	19	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	18	0	0	0	19	0	0	0
Added Vol:	47	142	53	498	121	112	173	489	57	40	338	365
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	142	53	529	139	112	173	489	76	40	338	365
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	142	53	529	139	112	173	489	76	40	338	365
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	142	53	529	139	112	173	489	76	40	338	365
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.05	1.00
Final Vol.:	47	149	56	529	146	118	173	538	83	40	355	365
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.93	0.93	0.95	0.98	0.98	0.95	1.00	0.85
Lanes:	1.00	1.45	0.55	1.00	1.11	0.89	1.00	2.60	0.40	1.00	2.00	1.00
Final Sat.:	1805	2651	997	1805	1954	1580	1805	4839	747	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.29	0.07	0.07	0.10	0.11	0.11	0.02	0.09	0.23
Crit Moves:		****		****			****				****	
Green/Cycle:	0.20	0.20	0.20	0.39	0.39	0.39	0.13	0.20	0.20	0.13	0.20	0.59
Volume/Cap:	0.13	0.28	0.28	0.75	0.19	0.19	0.75	0.56	0.56	0.17	0.47	0.38
Level Of Service Module:												
Delay/Veh:	21.4	22.0	22.0	20.0	12.8	12.8	35.6	23.7	23.7	25.1	23.1	7.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.4	22.0	22.0	20.0	12.8	12.8	35.6	23.7	23.7	25.1	23.1	7.1
Queue:	1	4	1	13	3	2	5	14	2	1	9	5

Table J.7-6 (Continued)

```
B-PM.CMD                Tue Nov 5, 1996 12:31:20                Page 10-1
---------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                 Minimum Marine/Minimum Rail Alternative
                              PM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #7 Middle Harbor Rd. / Gate 2
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.803
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      20.6
Optimal Cycle:       116              Level Of Service:                 C
***************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:   10     0    20     0     0     0     0    20    20    10    20     0
Lanes:         1  0  0  0  1   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      95     0   229     0     0     0     0   215   131    94    88     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   95     0   229     0     0     0     0   215   131    94    88     0
Added Vol:      6     0   304     0     0     0     0   205     2   136   214     0
PasserByVol:   76     0   106     0     0     0     0     0   106   159     0     0
Initial Fut:  177     0   639     0     0     0     0   420   239   389   302     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   177     0   639     0     0     0     0   420   239   389   302     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  177     0   639     0     0     0     0   420   239   389   302     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.05  1.05  1.00  1.05  1.00
Final Vol.:   177     0   639     0     0     0     0   441   251   389   317     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.95  1.00  0.85  1.00  1.00  1.00  1.00  0.95  0.95  0.95  1.00  1.00
Lanes:       1.00  0.00  1.00  0.00  0.00  0.00  0.00  1.27  0.73  1.00  2.00  0.00
Final Sat.:  1805     0  1615     0     0     0     0  2301  1309  1805  3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  0.00  0.40  0.00  0.00  0.00  0.00  0.19  0.19  0.22  0.08  0.00
Crit Moves:              ****                          ****        ****
Green/Cycle: 0.49  0.00  0.49  0.00  0.00  0.00  0.00  0.24  0.24  0.27  0.51  0.00
Volume/Cap:  0.20  0.00  0.80  0.00  0.00  0.00  0.00  0.80  0.80  0.80  0.16  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    9.2   0.0  17.9   0.0   0.0   0.0   0.0  27.0  27.0  28.6   8.6   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.2   0.0  17.9   0.0   0.0   0.0   0.0  27.0  27.0  28.6   8.6   0.0
Queue:          3     0    16     0     0     0     0    13     8    11     5     0
***************************************************************************

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B-PM.CMD                Tue Nov 5, 1996 12:31:20                Page 11-1
---------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                 Minimum Marine/Minimum Rail Alternative
                              PM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #8 Adeline St./ 3rd St.
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.618
Loss Time (sec):      12 (Y+R =  4 sec) Average Delay (sec/veh):      46.7
Optimal Cycle:        92              Level Of Service:                 E
***************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:   10    20    20    10    20    20    10    20    20    10    20    20
Lanes:         0  1  0  1  0   0  1  0  1  0   0  1  0  1  0   0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36     0   122    43     0    15    30    14    13    89    39    78
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   36     0   122    43     0    15    30    14    13    89    39    78
Added Vol:      0   891     0     0   570     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   36   891   122    43   570    15    30    14    13    89    39    78
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    36   891   122    43   570    15    30    14    13    89    39    78
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   36   891   122    43   570    15    30    14    13    89    39    78
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.05  1.05  1.05  1.05  1.05  1.05  1.00  1.00  1.00  1.00  1.00  1.00
Final Vol.:    38   936   128    45   599    16    30    14    13    89    39    78
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.98  0.98  0.98  1.00  1.00  1.00  0.95  0.93  0.93  0.95  0.90  0.90
Lanes:       0.07  1.70  0.23  0.14  1.81  0.05  1.00  0.52  0.48  0.84  0.39  0.77
Final Sat.:   128  3163   433   259  3449    92  1805   916   851  1512   663  1325
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30  0.30  0.30  0.17  0.17  0.17  0.02  0.02  0.02  0.06  0.06  0.06
Crit Moves:        ****              ****              ****              ****
Green/Cycle: 0.28  0.28  0.28  0.20  0.20  0.20  0.20  0.20  0.20  0.20  0.20  0.20
Volume/Cap:  1.06  1.06  1.06  0.87  0.87  0.87  0.08  0.08  0.08  0.29  0.29  0.29
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   61.2  61.2  61.2  32.5  32.5  32.5  21.0  21.0  21.0  22.0  22.0  22.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  61.2  61.2  61.2  32.5  32.5  32.5  21.0  21.0  21.0  22.0  22.0  22.0
Queue:          3    39     7     2    18     1     1     0     0     2     1     2
***************************************************************************

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Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/New Middle Harbor

Cycle (sec): 100 Critical Vol./Cap. (X): 0.321
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 9.7
Optimal Cycle: 58 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	1
Added Vol:	0	0	127	0	0	0	0	592	0	95	402	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	127	0	0	0	0	592	0	95	402	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	127	0	0	0	0	592	0	95	402	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	127	0	0	0	0	592	0	95	402	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	0	0	127	0	0	0	0	622	0	95	422	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00	1.99	0.01
Final Sat.:	1900	0	1615	0	0	0	0	3800	0	1805	3791	9
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.16	0.00	0.05	0.11	0.11
Crit Moves:			****					****		****		
Green/Cycle:	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.51	0.00	0.16	0.67	0.67
Volume/Cap:	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.32	0.00	0.32	0.16	0.16
Level Of Service Module:												
Delay/Veh:	0.0	0.0	20.1	0.0	0.0	0.0	0.0	9.3	0.0	24.0	3.8	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	20.1	0.0	0.0	0.0	0.0	9.3	0.0	24.0	3.8	3.8
Queue:	0	0	3	0	0	0	0	10	0	2	4	0

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.440
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 19.0
Optimal Cycle: 70 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	2 0 0 1 0			1 0 0 1 0			1 0 1 1 1			1 0 1 1 0		
Volume Module:												
Base Vol:	0	23	0	9	23	23	20	454	210	0	624	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	23	0	9	23	23	20	454	210	0	624	13
Added Vol:	435	0	129	0	0	0	0	0	258	95	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	435	23	129	9	23	23	20	454	468	95	624	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	435	23	129	9	23	23	20	454	468	95	624	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	435	23	129	9	23	23	20	454	468	95	624	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.05	1.05
Final Vol.:	448	23	129	9	23	23	20	499	514	95	655	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.87	0.87	0.95	0.93	0.93	0.95	0.92	0.92	0.95	1.00	1.00
Lanes:	2.00	0.15	0.85	1.00	0.50	0.50	1.00	1.48	1.52	1.00	1.96	0.04
Final Sat.:	3610	250	1403	1805	884	884	1805	2583	2661	1805	3720	80
Capacity Analysis Module:												
Vol/Sat:	0.12	0.09	0.09	0.00	0.03	0.03	0.01	0.19	0.19	0.05	0.18	0.18
Crit Moves:	****				****			****		****		
Green/Cycle:	0.23	0.29	0.29	0.14	0.20	0.20	0.16	0.37	0.37	0.10	0.31	0.31
Volume/Cap:	0.53	0.32	0.32	0.03	0.13	0.13	0.07	0.53	0.53	0.53	0.57	0.57
Level Of Service Module:												
Delay/Veh:	22.1	18.1	18.1	23.7	21.2	21.2	23.3	16.4	16.4	29.9	19.1	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	18.1	18.1	23.7	21.2	21.2	23.3	16.4	16.4	29.9	19.1	19.1
Queue:	11	1	3	0	1	1	0	11	11	3	15	0

Table J.7-6 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.577
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.0
Optimal Cycle: 82 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	10	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	1 1	0 1	0	1 0	0 1	1
Volume Module:												
Base Vol:	0	0	0	241	0	69	138	157	0	0	202	616
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	241	0	69	138	157	0	0	202	616
Added Vol:	186	172	533	0	102	0	0	0	105	363	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	186	172	533	241	102	69	138	157	105	363	202	616
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	186	172	533	241	102	69	138	157	105	363	202	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	186	172	533	241	102	69	138	157	105	363	202	308
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.05	1.10	1.10	1.10	1.00	1.05	1.05
Final Vol.:	186	172	533	241	107	72	152	173	116	363	212	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.94	0.94	0.94	0.94	0.94	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	1.20	0.80	1.03	1.18	0.79	1.00	0.79	1.21
Final Sat.:	1805	1900	1615	1805	2135	1437	1848	2104	1411	1805	1370	2088
Capacity Analysis Module:												
Vol/Sat:	0.10	0.09	0.33	0.13	0.05	0.05	0.08	0.08	0.08	0.20	0.15	0.15
Crit Moves:		****		****					****	****		
Green/Cycle:	0.19	0.20	0.49	0.19	0.20	0.20	0.20	0.20	0.20	0.29	0.29	0.29
Volume/Cap:	0.54	0.45	0.68	0.70	0.25	0.25	0.41	0.41	0.41	0.70	0.54	0.54
Level Of Service Module:												
Delay/Veh:	24.9	22.9	13.8	28.5	21.8	21.8	22.7	22.7	22.7	23.3	19.8	19.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.9	22.9	13.8	28.5	21.8	21.8	22.7	22.7	22.7	23.3	19.8	19.8
Queue:	5	4	12	7	3	2	4	4	3	10	5	8

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.205
Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 16.2
Optimal Cycle: 71 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0	1 1	1	0 0	1 1	0	0 1	0 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	194	281	0	144	30	31	97	18	32	31	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	194	281	0	144	30	31	97	18	32	31	34
Added Vol:	0	0	105	0	0	0	0	0	0	186	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	194	386	0	144	30	31	97	18	218	31	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	194	386	0	144	30	31	97	18	218	31	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	194	386	0	144	30	31	97	18	218	31	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	213	425	0	151	32	33	102	19	218	31	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.90	0.90	1.00	0.97	0.97	0.97	0.97	0.97	0.95	1.00	0.85
Lanes:	0.00	1.00	2.00	0.00	1.65	0.35	0.43	1.32	0.25	1.00	1.00	1.00
Final Sat.:	0	1713	3417	0	3041	645	790	2442	455	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.12	0.00	0.05	0.05	0.04	0.04	0.04	0.12	0.02	0.02
Crit Moves:		****		****				****			****	
Green/Cycle:	0.00	0.35	0.35	0.00	0.35	0.35	0.20	0.20	0.20	0.34	0.34	0.34
Volume/Cap:	0.00	0.36	0.36	0.00	0.14	0.14	0.21	0.21	0.21	0.36	0.05	0.06
Level Of Service Module:												
Delay/Veh:	0.0	15.6	15.6	0.0	14.4	14.4	21.6	21.6	21.6	16.2	14.3	14.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	15.6	15.6	0.0	14.4	14.4	21.6	21.6	21.6	16.2	14.3	14.4
Queue:	0	4	9	0	3	1	1	2	0	5	1	1

Table J.7-6 (Continued)

```
B-PM.CMD                 Tue Nov 5, 1996 12:31:20                 Page 16-1
----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                Minimum Marine/Minimum Rail Alternative
                              PM Peak Hour
----------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
****************************************************************************
Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.
****************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.400
Loss Time (sec):      10 (Y+R =  4 sec) Average Delay (sec/veh):       18.1
Optimal Cycle:        70               Level Of Service:                  C
****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include            Ovl            Include          Include
Min. Green:   10    20    20   10    20    20   10    20    20    0    20    20
Lanes:        2  0  0  1  0    1  0  0  0  2    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  197     3     2    0   205     0  108     0     0   53     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  197     3     2    0   205     0  108     0     0   53     1
Added Vol:    466    0     0     0    0   266   378   18     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  466  197     3     2    0   471   378  126     0     0   64     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   466  197     3     2    0   471   378  126     0     0   64     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  466  197     3     2    0   471   378  126     0     0   64     1
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.03 1.00  1.00  1.00 1.00  1.13  1.00 1.05  1.00  1.00 1.05  1.05
Final Vol.:   480  197     3     2    0   532   378  133     0     0   67     1
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  1.00  0.95 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00
Lanes:       2.00 0.98  0.02  1.00 0.00  2.00  1.00 2.00  0.00  0.00 1.97  0.03
Final Sat.:  3610 1872    29  1805    0  3230  1805 3800     0     0 3744    56
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.11  0.11  0.00 0.00  0.16  0.21 0.04  0.00  0.00 0.02  0.02
Crit Moves:  ****                  ****        ****                  ****
Green/Cycle: 0.19 0.26  0.26  0.13 0.00  0.51  0.31 0.51  0.00  0.00 0.20  0.20
Volume/Cap:  0.68 0.40  0.40  0.01 0.00  0.33  0.68 0.07  0.00  0.00 0.09  0.09
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   26.1 19.9  19.9  24.4  0.0   9.5  22.1  8.2   0.0   0.0 21.1  21.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.1 19.9  19.9  24.4  0.0   9.5  22.1  8.2   0.0   0.0 21.1  21.1
Queue:         13    5     0     0    0     9    10    2     0     0    2     0
****************************************************************************

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```
B-PM.CMD                 Tue Nov 5, 1996 12:31:20                 Page 17-1
----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                Minimum Marine/Minimum Rail Alternative
                              PM Peak Hour
----------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
****************************************************************************
Intersection #16 7th St./ I-880 SB Ramps
****************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.538
Loss Time (sec):       5 (Y+R =  4 sec) Average Delay (sec/veh):        5.7
Optimal Cycle:        35               Level Of Service:                  B
****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0    20    20   10    20    20
Lanes:        0  0  0  0  0    0  0  0  0  0    0  0  2  0  1    2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     0     0    0     7   378    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     0     0    0     7   378    0     0
Added Vol:      0    0     0     0    0     0     0  396   645     0  742     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0     0     0  396   652   378  742     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0     0     0  396   652   378  742     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0     0     0  396   652   378  742     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.00  1.03 1.05  1.00
Final Vol.:     0    0     0     0    0     0     0  416   652   389  779     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.85  0.95 1.00  1.00
Lanes:       0.00 0.00  0.00  0.00 0.00  0.00  0.00 2.00  1.00  2.00 2.00  0.00
Final Sat.:     0    0     0     0    0     0     0 3800  1615  3610 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.11  0.40  0.11 0.20  0.00
Crit Moves:                                               ****  ****
Green/Cycle: 0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.75  0.75  0.20 0.95  0.00
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.15  0.54  0.54 0.22  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0  0.0   0.0   0.0  0.0   0.0   0.0  2.3   3.8  23.8  0.1   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   0.0  0.0   0.0   0.0  2.3   3.8  23.8  0.1   0.0
Queue:          0    0     0     0    0     0     0    3     8    10    1     0
****************************************************************************

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Table J.7-6 (Continued)

```
B-PM.CMD                 Tue Nov 5, 1996 12:31:20                 Page 18-1
-----------------------------------------------------------------------------
                       FISCO/Port Vision 2000 EIS/EIR
                  Minimum Marine/Minimum Rail Alternative
                                PM Peak Hour
-----------------------------------------------------------------------------
                      Level Of Service Computation Report
          1994 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
*****************************************************************************
Average Delay (sec/veh):       2.2        Worst Case Level Of Service:      C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  1  1  0   1  0  2  0  0   0  0  0  0  0   1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   62  130     4    0    0     0    0    0   115    0    7
Growth Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:     0   62  130     4    0    0     0    0    0   115    0    7
Added Vol:       0  378    0     0  266    0     0    0    0     0    0    0
PasserByVol:     0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:     0  440  130     4  266    0     0    0    0   115    0    7
User Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:      1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:      0  440  130     4  266    0     0    0    0   115    0    7
Reduct Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:      0  440  130     4  266    0     0    0    0   115    0    7
Adjusted Volume Module:
Grade:              0%               0%               0%               0%
% Cycle/Cars:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:      1.10 1.00 1.00  1.10 1.00 1.00  1.10 1.10 1.10  1.10 1.10 1.10
Cycl/Car PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:        0  440  130     4  266    0     0    0    0   127    0    8
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx  2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx  5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   570 xxxx xxxxx  xxxx xxxx xxxxx   775 xxxx  285
Potent Cap.: xxxx xxxx xxxxx   847 xxxx xxxxx  xxxx xxxx xxxxx   338 xxxx  993
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.99 xxxx 1.00
Move Cap.:   xxxx xxxx xxxxx   847 xxxx xxxxx  xxxx xxxx xxxxx   337 xxxx  993
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   4.3 xxxx xxxxx xxxxx xxxx xxxxx  16.2 xxxx  3.7
LOS by Move:    *    *    *     A    *    *     *    *    *     C    *    A
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    *    *     *    *    *     *    *    *
ApproachDel:       0.0              0.1              0.0             15.5

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```
B-PM.CMD                 Tue Nov 5, 1996 12:31:20                 Page 19-1
-----------------------------------------------------------------------------
                       FISCO/Port Vision 2000 EIS/EIR
                  Minimum Marine/Minimum Rail Alternative
                                PM Peak Hour
-----------------------------------------------------------------------------
                      Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
*****************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.652
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):       21.9
Optimal Cycle:       81             Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20   20    10   20   20    10   20   20    10   20   20
Lanes:        1  0  1  1  0   1  1  0  1  0   1  0  1  1  0   1  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       75   72    0   759    0    6    86  277    3     0  456  330
Growth Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    75   72    0   759    0    6    86  277    3     0  456  330
Added Vol:       0  229  149     0  168    0     0  129    0    98   95    0
PasserByVol:     0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    75  301  149   759  168    6    86  406    3    98  551  330
User Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:      1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     75  301  149   759  168    6    86  406    3    98  551  330
Reduct Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    75  301  149   759  168    6    86  406    3    98  551  330
PCE Adj:      1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:      1.00 1.05 1.05  1.05 1.00 1.00  1.00 1.05 1.05  1.00 1.10 1.10
Final Vol.:     75  316  156   797  168    6    86  426    3    98  606  363
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:   0.95 0.95 0.95  0.95 1.00 1.00  0.95 1.00 1.00  0.95 0.94 0.94
Lanes:        1.00 1.34 0.66  2.00 0.97 0.03  1.00 1.99 0.01  1.00 1.88 1.12
Final Sat.:   1805 2417 1193  3610 1834   66  1805 3773   27  1805 3351 2007
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.04 0.13 0.13  0.22 0.09 0.09  0.05 0.11 0.11  0.05 0.18 0.18
Crit Moves:        ****       ****            ****                 ****
Green/Cycle:  0.20 0.20 0.20  0.32 0.32 0.32  0.10 0.24 0.24  0.12 0.27 0.27
Volume/Cap:   0.21 0.65 0.65  0.68 0.28 0.28  0.48 0.46 0.46  0.45 0.68 0.68
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    21.6 25.3 25.3  19.9 16.2 16.2  29.0 21.1 21.1  27.3 22.2 22.2
User DelAdj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   21.6 25.3 25.3  19.9 16.2 16.2  29.0 21.1 21.1  27.3 22.2 22.2
Queue:           2    8    4    20    3    0     2   10    0     3   16   10
*****************************************************************************

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Table J.7-7

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	1135.00	Employees	0.26	0.05	295	57	352	5.5
	Zone 1 Subtotal					295	57	352	5.5
3	J.I.T.	208.00	Employees	0.40	0.09	83	19	102	1.6
	Zone 3 Subtotal					83	19	102	1.6
4	SP Rail Term	210.00	Employees	0.40	0.09	84	19	103	1.6
	Zone 4 Subtotal					84	19	103	1.6
6	Middle Harbr	516.00	Employees	0.26	0.05	134	26	160	2.5
	Zone 6 Subtotal					134	26	160	2.5
7	7th St Harbr	613.00	Employees	0.26	0.05	159	31	190	2.9
	Zone 7 Subtotal					159	31	190	2.9
8	Outer Harbor	706.00	Employees	0.26	0.05	184	35	219	3.4
	Zone 8 Subtotal					184	35	219	3.4
10	New Park	1.00	Total Trips	31.00	19.00	31	19	50	0.8
	Zone 10 Subtotal					31	19	50	0.8
11	New Harbor	1.00	Trucks Inter	300.00	320.00	300	320	620	9.6
	Zone 11 Subtotal					300	320	620	9.6
16	Middle Harbr	1.00	Trucks Inter	136.00	145.00	136	145	281	4.4
	Zone 16 Subtotal					136	145	281	4.4
17	7th St Harbr	1.00	Trucks Inter	162.00	173.00	162	173	335	5.2
	Zone 17 Subtotal					162	173	335	5.2
18	Outer Harbor	1.00	Trucks Inter	187.00	199.00	187	199	386	6.0
	Zone 18 Subtotal					187	199	386	6.0
21	New Harbor	1.00	Truck External	511.00	544.00	511	544	1055	16.4
	Zone 21 Subtotal					511	544	1055	16.4
23	J.I.T.	1.00	Truck External	214.00	228.00	214	228	442	6.9
	Zone 23 Subtotal					214	228	442	6.9
24	SP Rail Term	1.00	Truck External	217.00	231.00	217	231	448	6.9
	Zone 24 Subtotal					217	231	448	6.9
26	Middle Harbr	1.00	Truck External	232.00	247.00	232	247	479	7.4

FISCO/Port Vision 2000 EIS/EIR
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Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 26 Subtotal					232	247	479	7.4
27	7th St Harbr	1.00	Truck External	276.00	294.00	276	294	570	8.8
	Zone 27 Subtotal					276	294	570	8.8
28	Outer Harbor	1.00	Truck External	318.00	338.00	318	338	656	10.2
	Zone 28 Subtotal					318	338	656	10.2
TOTAL						3523	2925	6448	100.0

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Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
4	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
24	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Turning Movement Report
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime St./ Burma St.													
Base	5	78	0	0	287	0	0	0	5	0	0	0	375
Added	0	290	0	0	426	177	106	0	0	0	0	0	998
Total	5	368	0	0	713	177	106	0	5	0	0	0	1373
#4 Maritime St./ 14th St.													
Base	0	91	39	103	261	0	0	0	0	22	0	87	603
Added	408	209	0	0	321	105	81	0	385	0	0	0	1509
Total	408	300	39	103	582	105	81	0	385	22	0	87	2112
#5 Maritime St./ 7th St. Extension													
Base	159	0	0	0	0	334	69	0	37	0	0	0	599
Added	495	493	0	0	561	145	123	0	446	0	0	0	2264
Total	654	493	0	0	561	479	192	0	483	0	0	0	2863
#6 7th St./ 7th St. Extension													
Base	0	0	0	0	0	0	0	0	0	0	0	54	54
Added	233	159	49	403	176	428	358	412	248	58	493	471	3488
Total	233	159	49	403	176	428	358	412	248	58	493	525	3542
#7 Middle Harbor/New Mddl Hrbr Rd													
Base	53	0	45	0	0	0	0	0	39	208	338	0	683
Added	0	0	419	0	0	0	0	205	0	478	343	0	1444
Total	53	0	464	0	0	0	0	205	39	686	681	0	2127
#8 Adeline St./ 3rd St.													
Base	8	0	31	26	0	26	8	6	29	50	59	56	299
Added	0	828	0	0	1113	0	0	0	0	0	0	0	1942
Total	8	828	31	26	1113	26	8	6	29	50	59	56	2241
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	502	0	0	0	0	517	0	526	628	0	2173
Total	0	0	502	0	0	0	0	517	0	526	628	0	2173
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	33	0	16	28	47	48	394	438	0	300	9	1313
Added	294	0	102	0	0	0	0	0	486	117	0	0	998
Total	294	33	102	16	28	47	48	394	924	117	300	9	2311
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	72	109	165	256	51	0	0	169	364	1186
Added	92	163	573	0	233	0	0	0	171	710	0	0	1942
Total	92	163	573	72	342	165	256	51	171	710	169	364	3128

Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	175	45	0	154	31	24	43	13	205	31	115	836
Added	0	0	171	0	0	0	0	0	0	92	0	0	263
Total	0	175	216	0	154	31	24	43	13	297	31	115	1099
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	548	21	17	0	94	0	16	0	0	62	1	759
Added	575	0	0	0	0	436	383	3	0	0	12	0	1408
Total	575	548	21	17	0	530	383	19	0	0	74	1	2167
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	0	65	0	0	65
Added	0	0	0	0	0	0	0	386	478	0	1022	0	1886
Total	0	0	0	0	0	0	0	386	478	65	1022	0	1951
#17 14th St./ I-880 Frontage Rd.													
Base	0	0	89	30	0	0	0	0	0	140	0	6	265
Added	0	383	0	0	436	0	0	0	0	0	0	0	819
Total	0	383	89	30	436	0	0	0	0	140	0	6	1084
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	0	0	678	48	6	65	234	12	0	152	449	1653
Added	0	271	112	0	299	0	0	102	0	137	117	0	1037
Total	9	271	112	678	347	6	65	336	12	137	269	449	2690
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	389	0	0	0	0	247	0	415	297	0	1349
Total	0	0	389	0	0	0	0	247	0	415	297	0	1349
#138													
Base	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
#158													
Base	0	-180	-129	0	0	0	0	0	0	0	0	0	-309
Added	0	212	110	0	0	0	0	0	0	0	0	0	322
Total	0	32	-19	0	0	0	0	0	0	0	0	0	13
#159													
Base	-180	0	0	0	0	0	0	0	0	0	-178	0	-358
Added	212	0	0	0	0	0	0	0	0	0	163	0	375
Total	32	0	0	0	0	0	0	0	0	0	-15	0	17

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#160													
Base	0	0	0	0	0	0	0	0	0	-178	-180	0	-358
Added	0	0	0	0	0	0	0	0	0	163	212	0	375
Total	0	0	0	0	0	0	0	0	0	-15	32	0	17
#161													
Base	0	0	0	0	-178	0	0	0	-286	0	0	0	-464
Added	0	0	0	0	163	0	0	0	375	0	0	0	538
Total	0	0	0	0	-15	0	0	0	89	0	0	0	74
#165													
Base	0	0	0	0	-227	0	0	0	-495	0	0	0	-722
Added	0	0	0	0	171	0	0	0	478	0	0	0	649
Total	0	0	0	0	-56	0	0	0	-17	0	0	0	-73
#170													
Base	0	-153	-564	0	0	0	0	0	0	0	0	0	-717
Added	0	92	575	0	0	0	0	0	0	0	0	0	666
Total	0	-61	11	0	0	0	0	0	0	0	0	0	-51
#177													
Base	0	0	0	0	-351	0	0	-129	0	0	0	0	-480
Added	0	0	0	0	418	0	0	110	0	0	0	0	528
Total	0	0	0	0	67	0	0	-19	0	0	0	0	48
#178													
Base	0	-266	0	0	0	0	-104	-25	0	0	0	0	-395
Added	0	335	0	0	0	0	74	36	0	0	0	0	444
Total	0	69	0	0	0	0	-30	11	0	0	0	0	49
#182													
Base	0	-370	0	0	0	-475	0	0	0	0	0	0	-845
Added	0	408	0	0	0	513	0	0	0	0	0	0	921
Total	0	38	0	0	0	38	0	0	0	0	0	0	76
#201													
Base	0	0	0	0	0	0	0	-932	0	0	0	0	-932
Added	0	0	0	0	0	0	0	1051	0	0	0	0	1051
Total	0	0	0	0	0	0	0	119	0	0	0	0	119
#204													
Base	0	0	0	-352	-580	0	0	0	0	0	0	0	-932
Added	0	0	0	393	658	0	0	0	0	0	0	0	1051
Total	0	0	0	41	78	0	0	0	0	0	0	0	119

Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#207													
Base	0	-714	0	0	0	0	0	0	0	0	0	-396	-1110
Added	0	847	0	0	0	0	0	0	0	0	0	437	1284
Total	0	133	0	0	0	0	0	0	0	0	0	41	174
#214													
Base	0	0	0	0	0	0	0	0	0	-546	-564	0	-1110
Added	0	0	0	0	0	0	0	0	0	710	575	0	1284
Total	0	0	0	0	0	0	0	0	0	164	11	0	174
#217													
Base	0	0	0	0	-45	0	0	-25	0	0	0	0	-70
Added	0	0	0	0	35	0	0	36	0	0	0	0	71
Total	0	0	0	0	-10	0	0	11	0	0	0	0	1
#218													
Base	0	-21	0	0	0	0	-21	-4	0	0	0	0	-46
Added	0	15	0	0	0	0	32	4	0	0	0	0	51
Total	0	-6	0	0	0	0	11	-0	0	0	0	0	5
#219													
Base	0	-43	0	0	0	0	0	0	0	0	-20	0	-63
Added	0	47	0	0	0	0	0	0	0	0	20	0	67
Total	0	4	0	0	0	0	0	0	0	0	0	0	4
#220													
Base	0	0	0	0	-45	-34	0	0	0	0	-20	0	-99
Added	0	0	0	0	35	48	0	0	0	0	20	0	103
Total	0	0	0	0	-10	14	0	0	0	0	0	0	4
#225													
Base	0	0	0	0	0	0	0	0	0	0	-396	-20	-416
Added	0	0	0	0	0	0	0	0	0	0	437	20	457
Total	0	0	0	0	0	0	0	0	0	0	41	0	41
#226													
Base	0	0	0	-4	0	0	0	-352	0	0	0	0	-356
Added	0	0	0	4	0	0	0	393	0	0	0	0	397
Total	0	0	0	-0	0	0	0	41	0	0	0	0	41
#244													
Base	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692
Added	0	0	0	0	0	250	301	422	0	0	396	0	1368
Total	0	0	0	0	0	-38	-11	375	0	0	351	0	676

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Link Volume Report
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	83	292	375	287	78	365	5	5	10	0	0	0	750
Added	290	426	716	603	396	998	106	177	282	0	0	0	1997
Total	373	718	1091	890	474	1363	111	182	292	0	0	0	2747
#4 Maritime St./ 14th St.													
Base	130	283	413	364	178	542	0	0	0	109	142	251	1206
Added	616	707	1323	426	290	716	466	512	979	0	0	0	3018
Total	746	990	1736	790	468	1258	466	512	979	109	142	251	4224
#5 Maritime St./ 7th St. Extension													
Base	159	37	196	334	69	403	106	493	599	0	0	0	1198
Added	988	1007	1995	707	616	1323	569	640	1209	0	0	0	4527
Total	1147	1044	2191	1041	685	1726	675	1133	1808	0	0	0	5725
#6 7th St./ 7th St. Extension													
Base	0	0	0	0	54	54	0	0	0	54	0	54	108
Added	441	482	923	1007	988	1995	1019	1154	2173	1022	864	1886	6977
Total	441	482	923	1007	1042	2049	1019	1154	2173	1076	864	1940	7085
#7 Middle Harbor/New Mddl Hrbr Rd													
Base	98	247	345	0	0	0	39	391	430	546	45	591	1366
Added	419	478	897	0	0	0	205	343	548	820	624	1444	2889
Total	517	725	1242	0	0	0	244	734	978	1366	669	2035	4255
#8 Adeline St./ 3rd St.													
Base	39	79	118	52	64	116	43	93	136	165	63	228	598
Added	828	1113	1942	1113	828	1942	0	0	0	0	0	0	3883
Total	867	1192	2060	1165	892	2058	43	93	136	165	63	228	4481
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	502	526	1028	0	0	0	517	628	1145	1154	1019	2173	4346
Total	502	526	1028	0	0	0	517	628	1145	1154	1019	2173	4346
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	33	466	499	91	90	181	880	347	1227	309	410	719	2626
Added	396	603	998	0	0	0	486	294	780	117	102	218	1997
Total	429	1069	1497	91	90	181	1366	641	2007	426	512	937	4623
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	109	109	346	620	966	307	334	641	533	123	656	2372
Added	828	1113	1942	233	163	396	171	92	263	710	573	1283	3883
Total	828	1222	2051	579	783	1362	478	426	904	1243	696	1939	6255

Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#14 Union St./ 5th St./ I-880 North Ramps													
Base	220	372	592	185	314	499	80	62	142	351	88	439	1672
Added	171	92	263	0	0	0	0	0	0	92	171	263	526
Total	391	464	855	185	314	499	80	62	142	443	259	702	2198
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	569	0	569	111	549	660	16	156	172	63	54	117	1518
Added	575	0	575	436	383	819	386	1022	1408	12	3	14	2815
Total	1144	0	1144	547	932	1479	402	1178	1580	75	57	131	4333
#16 7th St./ I-880 SB Ramps													
Base	0	65	65	0	0	0	0	0	0	65	0	65	130
Added	0	478	478	0	0	0	864	1022	1886	1022	386	1408	3772
Total	0	543	543	0	0	0	864	1022	1886	1087	386	1473	3902
#17 14th St./ I-880 Frontage Rd.													
Base	89	140	229	30	6	36	0	0	0	146	119	265	530
Added	383	436	819	436	383	819	0	0	0	0	0	0	1638
Total	472	576	1048	466	389	855	0	0	0	146	119	265	2168
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	60	69	732	514	1246	311	167	478	601	912	1513	3306
Added	383	436	819	299	271	570	102	117	218	253	214	467	2074
Total	392	496	888	1031	785	1816	413	284	696	854	1126	1980	5380
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	389	415	805	0	0	0	247	297	544	712	636	1349	2697
Total	389	415	805	0	0	0	247	297	544	712	636	1349	2697
#138													
Base	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
#158													
Base	-309	0	-309	0	-180	-180	0	0	0	0	-129	-129	-618
Added	322	0	322	0	212	212	0	0	0	0	110	110	644
Total	13	0	13	0	32	32	0	0	0	0	-19	-19	26
#159													
Base	-180	0	-180	0	0	0	0	-358	-358	-178	0	-178	-716
Added	212	0	212	0	0	0	0	375	375	163	0	163	750
Total	32	0	32	0	0	0	0	17	17	-15	0	-15	34

FISCO/Port Vision 2000 EIS/EIR
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Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#160													
Base	0	-178	-178	0	0	0	0	-180	-180	-358	0	-358	-716
Added	0	163	163	0	0	0	0	212	212	375	0	375	750
Total	0	-15	-15	0	0	0	0	32	32	17	0	17	34
#161													
Base	0	-464	-464	-178	0	-178	-286	0	-286	0	0	0	-928
Added	0	538	538	163	0	163	375	0	375	0	0	0	1076
Total	0	74	74	-15	0	-15	89	0	89	0	0	0	148
#165													
Base	0	-722	-722	-227	0	-227	-495	0	-495	0	0	0	-1444
Added	0	649	649	171	0	171	478	0	478	0	0	0	1298
Total	0	-73	-73	-56	0	-56	-17	0	-17	0	0	0	-146
#170													
Base	-717	0	-717	0	-153	-153	0	0	0	0	-564	-564	-1434
Added	666	0	666	0	92	92	0	0	0	0	575	575	1333
Total	-51	0	-51	0	-61	-61	0	0	0	0	11	11	-101
#177													
Base	0	-351	-351	-351	0	-351	-129	0	-129	0	-129	-129	-960
Added	0	418	418	418	0	418	110	0	110	0	110	110	1056
Total	0	67	67	67	0	67	-19	0	-19	0	-19	-19	96
#178													
Base	-266	0	-266	0	-370	-370	-129	0	-129	0	-25	-25	-790
Added	335	0	335	0	408	408	110	0	110	0	36	36	889
Total	69	0	69	0	38	38	-19	0	-19	0	11	11	99
#182													
Base	-370	0	-370	-475	-370	-845	0	-475	-475	0	0	0	-1690
Added	408	0	408	513	408	921	0	513	513	0	0	0	1843
Total	38	0	38	38	38	76	0	38	38	0	0	0	153
#201													
Base	0	0	0	0	0	0	-932	0	-932	0	-932	-932	-1864
Added	0	0	0	0	0	0	1051	0	1051	0	1051	1051	2103
Total	0	0	0	0	0	0	119	0	119	0	119	119	239
#204													
Base	0	-580	-580	-932	0	-932	0	0	0	0	-352	-352	-1864
Added	0	658	658	1051	0	1051	0	0	0	0	393	393	2103
Total	0	78	78	119	0	119	0	0	0	0	41	41	239

Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#207													
Base	-714	0	-714	0	-1110	-1110	0	0	0	-396	0	-396	-222
Added	847	0	847	0	1284	1284	0	0	0	437	0	437	2568
Total	133	0	133	0	174	174	0	0	0	41	0	41	348
#214													
Base	0	-546	-546	0	0	0	0	-564	-564	-1110	0	-1110	-2220
Added	0	710	710	0	0	0	0	575	575	1284	0	1284	2568
Total	0	164	164	0	0	0	0	11	11	174	0	174	348
#217													
Base	0	-45	-45	-45	0	-45	-25	0	-25	0	-25	-25	-140
Added	0	35	35	35	0	35	36	0	36	0	36	36	142
Total	0	-10	-10	-10	0	-10	11	0	11	0	11	11	2
#218													
Base	-21	0	-21	0	-42	-42	-25	0	-25	0	-4	-4	-92
Added	15	0	15	0	47	47	36	0	36	0	4	4	102
Total	-6	0	-6	0	5	5	11	0	11	0	-0	-0	10
#219													
Base	-43	0	-43	0	-43	-43	0	-20	-20	-20	0	-20	-126
Added	47	0	47	0	47	47	0	20	20	20	0	20	134
Total	4	0	4	0	4	4	0	0	0	0	0	0	8
#220													
Base	0	-45	-45	-79	0	-79	0	-54	-54	-20	0	-20	-198
Added	0	35	35	82	0	82	0	68	68	20	0	20	205
Total	0	-10	-10	3	0	3	0	14	14	0	0	0	7
#225													
Base	0	0	0	0	-20	-20	0	-396	-396	-416	0	-416	-832
Added	0	0	0	0	20	20	0	437	437	457	0	457	914
Total	0	0	0	0	0	0	0	41	41	41	0	41	82
#226													
Base	0	0	0	-4	0	-4	-352	0	-352	0	-356	-356	-712
Added	0	0	0	4	0	4	393	0	393	0	397	397	794
Total	0	0	0	-0	0	-0	41	0	41	0	41	41	82
#244													
Base	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384
Added	0	0	0	250	301	551	723	646	1368	396	422	817	2737
Total	0	0	0	-38	-11	-49	364	313	676	351	375	725	1353

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 3 Maritime St./ Burma St.	B	6.3	0.089	B	8.5	0.278	+ 2.178 D/V
# 4 Maritime St./ 14th St.	C	15.0	0.161	C	20.8	0.819	+ 5.776 D/V
# 5 Maritime St./ 7th St. Extensio	B	12.7	0.071	B	12.1	0.588	-0.581 D/V
# 6 7th St./ 7th St. Extension	C	16.4	0.000	C	24.9	0.672	+ 8.542 D/V
# 7 Middle Harbor/New Mddl Hrbr Rd	B	6.6	0.167	C	16.8	0.736	+10.155 D/V
# 8 Adeline St./ 3rd St.	B	8.7	0.064	F	111.2	0.705	+102.460 D/V
# 9 7th/New Middle Harbor		0.0	0.000	C	20.7	0.810	+20.677 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.0	0.242	C	17.1	0.547	+ 5.120 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	18.3	0.236	D	28.2	0.789	+ 9.906 D/V
# 14 Union St./ 5th St./ I-880 Nort	C	16.4	0.104	C	17.0	0.137	+ 0.629 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	13.0	0.366	C	22.8	0.605	+ 9.827 D/V
# 16 7th St./ I-880 SB Ramps	A	0.1	0.020	A	1.4	0.331	+ 1.291 D/V
# 17 14th St./ I-880 Frontage Rd.	A	2.8	0.000	D	3.9	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	19.9	0.237	C	21.2	0.544	+ 1.301 D/V

Table J.7-7 (Continued)

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C-AM.CMD                 Tue Nov 5, 1996 13:07:09                  Page 6-1
---------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                Maximum Marine/Minimum Rail Alternative
                              AM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #3 Maritime St./ Burma St.
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.278
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):       8.5
Optimal Cycle:        58              Level Of Service:                  B
***************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   20    20     0    0     0
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       5   78     0     0  287     0     0    0     5     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    5   78     0     0  287     0     0    0     5     0    0     0
Added Vol:      0  290     0     0  426   177   106    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    5  368     0     0  713   177   106    0     5     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     5  368     0     0  713   177   106    0     5     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    5  368     0     0  713   177   106    0     5     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05  1.00 1.05  1.05  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     5  386     0     0  749   185   106    0     5     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  1.00  1.00 0.97  0.97  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 2.00  0.00  1.00 1.60  0.40  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 3800     0  1900 2956   730  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.10  0.00  0.00 0.25  0.25  0.06 0.00  0.00  0.00 0.00  0.00
Crit Moves:  ****                  ****              ****
Green/Cycle: 0.10 0.48  0.00  0.00 0.62  0.62  0.20 0.00  0.20  0.00 0.00  0.00
Volume/Cap:  0.03 0.21  0.00  0.00 0.41  0.41  0.29 0.00  0.02  0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   26.2  9.7   0.0   0.0  6.3   6.3  22.1  0.0  20.7   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.2  9.7   0.0   0.0  6.3   6.3  22.1  0.0  20.7   0.0  0.0   0.0
Queue:          0    6     0     0   11     3     3    0     0     0    0     0
***************************************************************************

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C-AM.CMD                 Tue Nov 5, 1996 13:07:09                  Page 7-1
---------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                Maximum Marine/Minimum Rail Alternative
                              AM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #4 Maritime St./ 14th St.
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.819
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):      20.8
Optimal Cycle:        70              Level Of Service:                  C
***************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Permitted        Permitted
Rights:          Include          Include            Ovl            Include
Min. Green:    10   20    20    10   20    20    10   20    20    10   20    20
Lanes:        1  0  1  1  0    1  0  1  1  0    0  0  1! 0  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   91    39   103  261     0     0    0     0    22    0    87
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   91    39   103  261     0     0    0     0    22    0    87
Added Vol:    408  209     0     0  321   105    81    0   385     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  408  300    39   103  582   105    81    0   385    22    0    87
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   408  300    39   103  582   105    81    0   385    22    0    87
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  408  300    39   103  582   105    81    0   385    22    0    87
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05  1.00 1.05  1.05  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   408  315    41   103  612   110    81    0   385    22    0    87
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.98  0.98  0.95 0.98  0.98  0.73 1.00  0.73  0.57 1.00  0.85
Lanes:       1.00 1.77  0.23  1.00 1.70  0.30  0.17 0.00  0.83  1.00 0.00  1.00
Final Sat.:  1805 3295   429  1805 3157   567   243    0  1153  1083    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.10  0.10  0.06 0.19  0.19  0.33 0.00  0.33  0.02 0.00  0.05
Crit Moves:  ****                  ****        ****
Green/Cycle: 0.28 0.34  0.34  0.17 0.24  0.24  0.41 0.00  0.68  0.41 0.00  0.41
Volume/Cap:  0.82 0.28  0.28  0.33 0.82  0.82  0.82 0.00  0.49  0.05 0.00  0.13
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   29.1 15.5  15.5  23.8 27.7  27.7  23.4  0.0   5.2  11.6  0.0  12.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  29.1 15.5  15.5  23.8 27.7  27.7  23.4  0.0   5.2  11.6  0.0  12.0
Queue:         12    6     1     3   17     4     3    0     5     0    0     2
***************************************************************************

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Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.588
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 12.1
Optimal Cycle: 48 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0	2 0	0	0 0	2 0	1	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	159	0	0	0	0	334	69	0	37	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	159	0	0	0	0	334	69	0	37	0	0	0
Added Vol:	495	493	0	0	561	145	123	0	446	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	654	493	0	0	561	479	192	0	483	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	654	493	0	0	561	479	192	0	483	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	654	493	0	0	561	479	192	0	483	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	673	518	0	0	589	479	198	0	483	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.19	0.14	0.00	0.00	0.15	0.30	0.05	0.00	0.30	0.00	0.00	0.00
Crit Moves:	****					****			****			
Green/Cycle:	0.35	0.71	0.00	0.00	0.36	0.57	0.21	0.00	0.56	0.00	0.00	0.00
Volume/Cap:	0.54	0.19	0.00	0.00	0.42	0.52	0.26	0.00	0.54	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	17.4	3.1	0.0	0.0	15.6	8.8	21.4	0.0	9.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.4	3.1	0.0	0.0	15.6	8.8	21.4	0.0	9.6	0.0	0.0	0.0
Queue:	15	5	0	0	12	8	5	0	9	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.672
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 24.9
Optimal Cycle: 68 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	54
Added Vol:	233	159	49	403	176	428	358	412	248	58	493	471
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	159	49	403	176	428	358	412	248	58	493	525
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1,00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	159	49	403	176	428	358	412	248	58	493	525
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	159	49	403	176	428	358	412	248	58	493	525
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	233	167	52	403	176	428	358	432	248	58	518	525
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.53	0.47	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	2782	866	1805	1900	1615	1805	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.06	0.06	0.22	0.09	0.27	0.20	0.11	0.15	0.03	0.14	0.33
Crit Moves:		****		****			****				****	
Green/Cycle:	0.16	0.20	0.20	0.28	0.32	0.32	0.24	0.20	0.20	0.24	0.20	0.48
Volume/Cap:	0.83	0.30	0.30	0.81	0.29	0.83	0.81	0.57	0.77	0.13	0.68	0.68
Level Of Service Module:												
Delay/Veh:	39.0	22.1	22.1	28.6	16.5	25.9	30.5	23.8	27.3	19.1	25.7	14.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.0	22.1	22.1	28.6	16.5	25.9	30.5	23.8	27.3	19.1	25.7	14.9
Queue:	8	4	1	12	4	12	11	11	7	1	14	12

Table J.7-7 (Continued)

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C-AM.CMD                 Tue Nov 5, 1996 13:07:09                  Page 10-1
----------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Minimum Rail Alternative
                              AM Peak Hour
----------------------------------------------------------------------------
                     Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
****************************************************************************
Intersection #7 Middle Harbor/New Mddl Hrbr Rd
****************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):        0.736
Loss Time (sec):        0 (Y+R =  4 sec) Average Delay (sec/veh):      16.8
Optimal Cycle:         86              Level Of Service:                  C
****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:   10    0    20     0    0     0     0   20    20    10   20     0
Lanes:       1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53    0    45     0    0     0     0    0    39   208  338     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   53    0    45     0    0     0     0    0    39   208  338     0
Added Vol:      0    0   419     0    0     0     0  205     0   478  343     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   53    0   464     0    0     0     0  205    39   686  681     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53    0   464     0    0     0     0  205    39   686  681     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   53    0   464     0    0     0     0  205    39   686  681     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.05  1.00 1.05  1.00
Final Vol.:    53    0   464     0    0     0     0  215    41   686  715     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  0.85  1.00 1.00  1.00  1.00 0.98  0.98  0.95 1.00  1.00
Lanes:       1.00 0.00  1.00  0.00 0.00  0.00  0.00 1.68  0.32  1.00 2.00  0.00
Final Sat.:  1805    0  1615     0    0     0     0 3128   596  1805 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.00  0.29  0.00 0.00  0.00  0.00 0.07  0.07  0.38 0.19  0.00
Crit Moves:             ****                        ****        ****
Green/Cycle: 0.34 0.00  0.34  0.00 0.00  0.00  0.00 0.20  0.20  0.46 0.66  0.00
Volume/Cap:  0.09 0.00  0.83  0.00 0.00  0.00  0.00 0.34  0.34  0.83 0.29  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   14.3  0.0  26.8   0.0  0.0   0.0   0.0 22.3  22.3  20.7  4.7   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.3  0.0  26.8   0.0  0.0   0.0   0.0 22.3  22.3  20.7  4.7   0.0
Queue:          1    0    13     0    0     0     0    5     1    18    8     0
****************************************************************************

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```
C-AM.CMD                 Tue Nov 5, 1996 13:07:09                  Page 11-1
----------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Minimum Rail Alternative
                              AM Peak Hour
----------------------------------------------------------------------------
                     Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
****************************************************************************
Intersection #8 Adeline St./ 3rd St.
****************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):        0.705
Loss Time (sec):       12 (Y+R =  4 sec) Average Delay (sec/veh):     111.2
Optimal Cycle:         92              Level Of Service:                  F
****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:   10   20    20    10   20    20    10   20    20    10   20    20
Lanes:       0  1  0  1  0    0  1  0  1  0    0  1  0  1  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    0    31    26    0    26     8    6    29    50   59    56
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8    0    31    26    0    26     8    6    29    50   59    56
Added Vol:      0  828     0     0 1113     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8  828    31    26 1113    26     8    6    29    50   59    56
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     8  828    31    26 1113    26     8    6    29    50   59    56
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    8  828    31    26 1113    26     8    6    29    50   59    56
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.05 1.05  1.05  1.05 1.05  1.05  1.00 1.00  1.00  1.05 1.05  1.05
Final Vol.:     8  870    33    27 1169    27     8    6    29    53   62    59
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.99 0.99  0.99  1.00 1.00  1.00  0.97 0.97  0.85  0.94 0.94  0.94
Lanes:       0.02 1.91  0.07  0.04 1.92  0.04  0.57 0.43  1.00  0.61 0.71  0.68
Final Sat.:    33 3593   136    84 3632    84  1053  790  1615  1089 1273  1212
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.24  0.24  0.32 0.32  0.32  0.01 0.01  0.02  0.05 0.05  0.05
Crit Moves:             ****  ****                  ****              ****
Green/Cycle: 0.21 0.21  0.21  0.27 0.27  0.27  0.20 0.20  0.20  0.20 0.20  0.20
Volume/Cap:  1.18 1.18  1.18  1.18 1.18  1.18  0.04 0.04  0.09  0.24 0.24  0.24
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:  123.4  123 123.4 118.0  118 118.0  20.8 20.8  21.1  21.8 21.8  21.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 123.4  123 123.4 118.0  118 118.0  20.8 20.8  21.1  21.8 21.8  21.8
Queue:          1   52     3     3   69     3     0    0     1     1    1     1
****************************************************************************

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Table J.7-7 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/New Middle Harbor

Cycle (sec):	100		Critical Vol./Cap. (X):	0.810
Loss Time (sec):	8	(Y+R = 4 sec)	Average Delay (sec/veh):	20.7
Optimal Cycle:	67		Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	10 0 20	0 0 0	0 20 20	10 20 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 1 0	1 0 2 0 0

	NB L	NB T	NB R	SB L	SB T	SB R	EB L	EB T	EB R	WB L	WB T	WB R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	502	0	0	0	0	517	0	526	628	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	502	0	0	0	0	517	0	526	628	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	502	0	0	0	0	517	0	526	628	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	502	0	0	0	0	517	0	526	628	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
Final Vol.:	0	0	502	0	0	0	0	543	0	526	659	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00	2.00	0.00
Final Sat.:	1900	0	1615	0	0	0	0	3800	0	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.14	0.00	0.29	0.17	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.20	0.00	0.35	0.55	0.00
Volume/Cap:	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.71	0.00	0.84	0.32	0.00
Level Of Service Module:												
Delay/Veh:	0.0	0.0	25.5	0.0	0.0	0.0	0.0	26.3	0.0	26.1	8.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	25.5	0.0	0.0	0.0	0.0	26.3	0.0	26.1	8.0	0.0
Queue:	0	0	14	0	0	0	0	15	0	15	10	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec):	100		Critical Vol./Cap. (X):	0.547
Loss Time (sec):	10	(Y+R = 4 sec)	Average Delay (sec/veh):	17.1
Optimal Cycle:	70		Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	10 20 20	10 20 20	10 20 20	10 20 20
Lanes:	2 0 0 1 0	1 0 0 1 0	1 0 1 1 1	1 0 1 1 0

	NB L	NB T	NB R	SB L	SB T	SB R	EB L	EB T	EB R	WB L	WB T	WB R
Volume Module:												
Base Vol:	0	33	0	16	28	47	48	394	438	0	300	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	33	0	16	28	47	48	394	438	0	300	9
Added Vol:	294	0	102	0	0	0	0	0	486	117	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	294	33	102	16	28	47	48	394	924	117	300	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	294	33	102	16	28	47	48	394	924	117	300	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	294	33	102	16	28	47	48	394	924	117	300	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.05	1.05
Final Vol.:	303	33	102	16	28	47	48	394	970	117	315	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	0.91	0.91	0.95	1.00	0.85	0.95	1.00	1.00
Lanes:	2.00	0.24	0.76	1.00	0.37	0.63	1.00	1.00	2.00	1.00	1.94	0.06
Final Sat.:	3610	413	1278	1805	645	1084	1805	1900	3230	1805	3694	106
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.01	0.04	0.04	0.03	0.21	0.30	0.06	0.09	0.09
Crit Moves:	****				****				****	****		
Green/Cycle:	0.13	0.22	0.22	0.11	0.20	0.20	0.19	0.47	0.47	0.10	0.38	0.38
Volume/Cap:	0.64	0.36	0.36	0.08	0.22	0.22	0.14	0.44	0.64	0.64	0.22	0.22
Level Of Service Module:												
Delay/Veh:	28.7	21.6	21.6	25.8	21.7	21.7	21.8	11.6	13.5	33.0	13.6	13.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.7	21.6	21.6	25.8	21.7	21.7	21.8	11.6	13.5	33.0	13.6	13.6
Queue:	8	1	2	0	1	1	1	7	21	3	6	0

Table J.7-7 (Continued)

```
C-AM.CMD              Tue Nov 5, 1996 13:07:09                  Page 14-1
--------------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                Maximum Marine/Minimum Rail Alternative
                             AM Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp
********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):         0.789
Loss Time (sec):     12 (Y+R =  4 sec) Average Delay (sec/veh):       28.2
Optimal Cycle:       82             Level Of Service:                   D
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:            Ovl             Include         Include          Include
Min. Green:   10    20    20    10    20    20    10    10    20    10    20    20
Lanes:        1  0  1  1  0    1  0  1  1  0    1  1  0  1  0    1  0  0  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0     0     0    72   109   165   256    51     0     0   169   364
Growth Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:     0     0     0    72   109   165   256    51     0     0   169   364
Added Vol:      92   163   573     0   233     0     0     0   171   710     0     0
PasserByVol:     0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    92   163   573    72   342   165   256    51   171   710   169   364
User Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.50
PHF Adj:      1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     92   163   573    72   342   165   256    51   171   710   169   182
Reduct Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    92   163   573    72   342   165   256    51   171   710   169   182
PCE Adj:      1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:      1.00  1.00  1.00  1.00  1.05  1.05  1.05  1.00  1.00  1.00  1.05  1.05
Final Vol.:     92   163   573    72   359   173   269    51   171   710   177   191
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:   0.95  1.00  0.85  0.95  0.95  0.95  0.95  0.88  0.88  0.95  0.92  0.92
Lanes:        1.00  1.00  1.00  1.00  1.35  0.65  1.66  0.34  1.00  1.00  0.96  1.04
Final Sat.:   1805  1900  1615  1805  2436  1174  2997   568  1672  1805  1682  1815
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.05  0.09  0.35  0.04  0.15  0.15  0.09  0.09  0.10  0.39  0.11  0.11
Crit Moves:   ****                    ****                    ****  ****
Green/Cycle:  0.10  0.20  0.58  0.10  0.20  0.20  0.20  0.20  0.20  0.38  0.38  0.38
Volume/Cap:   0.51  0.43  0.61  0.40  0.74  0.74  0.45  0.45  0.51  1.04  0.28  0.28
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    29.5  22.7   9.5  28.0  27.0  27.0  22.9  22.9  23.4  56.1  13.9  13.9
User DelAdj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   29.5  22.7   9.5  28.0  27.0  27.0  22.9  22.9  23.4  56.1  13.9  13.9
Queue:           3     4    11     2    10     5     7     1     4    29     3     4
********************************************************************************

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C-AM.CMD              Tue Nov 5, 1996 13:07:09                  Page 15-1
--------------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
                Maximum Marine/Minimum Rail Alternative
                             AM Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #14 Union St./ 5th St./ I-880 North Ramps
********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):         0.137
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):       17.0
Optimal Cycle:       71             Level Of Service:                   C
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:          Include          Include         Include          Include
Min. Green:    0    20    20     0    20    20    10    20    20    10    20    20
Lanes:        0  0  1  1  1    0  0  1  1  0    0  1  0  1  0    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   175    45     0   154    31    24    43    13   205    31   115
Growth Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:     0   175    45     0   154    31    24    43    13   205    31   115
Added Vol:       0     0   171     0     0     0     0     0     0    92     0     0
PasserByVol:     0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:     0   175   216     0   154    31    24    43    13   297    31   115
User Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:      1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:      0   175   216     0   154    31    24    43    13   297    31   115
Reduct Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:     0   175   216     0   154    31    24    43    13   297    31   115
PCE Adj:      1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:      1.00  1.10  1.10  1.00  1.05  1.05  1.05  1.05  1.05  1.00  1.00  1.00
Final Vol.:      0   193   238     0   162    33    25    45    14   297    31   115
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:   1.00  0.92  0.92  1.00  0.97  0.97  0.96  0.96  0.96  0.95  1.00  0.85
Lanes:        0.00  1.34  1.66  0.00  1.66  0.34  0.60  1.07  0.33  1.00  1.00  1.00
Final Sat.:      0  2348  2896     0  3062   624  1086  1955   608  1805  1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.00  0.08  0.08  0.00  0.05  0.05  0.02  0.02  0.02  0.16  0.02  0.07
Crit Moves:         ****      ****                    ****                    ****
Green/Cycle:  0.00  0.23  0.23  0.00  0.23  0.23  0.20  0.20  0.20  0.46  0.46  0.46
Volume/Cap:   0.00  0.36  0.36  0.00  0.23  0.23  0.12  0.12  0.12  0.36  0.04  0.15
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:     0.0  21.0  21.0   0.0  20.3  20.3  21.2  21.2  21.2  11.4   9.6  10.1
User DelAdj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:    0.0  21.0  21.0   0.0  20.3  20.3  21.2  21.2  21.2  11.4   9.6  10.1
Queue:           0     5     6     0     4     1     1     1     0     5     0     2
********************************************************************************

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Table J.7-7 (Continued)

```
C-AM.CMD                Tue Nov 5, 1996 13:07:09                Page 16-1
--------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
              Maximum Marine/Minimum Rail Alternative
                            AM Peak Hour
--------------------------------------------------------------------------
                 Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
**************************************************************************
Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.
**************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.605
Loss Time (sec):     10 (Y+R =  4 sec) Average Delay (sec/veh):     22.8
Optimal Cycle:       70              Level Of Service:                C
**************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include           Ovl             Include          Include
Min. Green:   10   20    20    10   20    20    10   20    20     0   20    20
Lanes:        2  0  0  1  0    1  0  0  0  2    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  548    21    17    0    94     0   16     0     0   62     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0  548    21    17    0    94     0   16     0     0   62     1
Added Vol:   575    0     0     0    0   436   383    3     0     0   12     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut: 575  548    21    17    0   530   383   19     0     0   74     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  575  548    21    17    0   530   383   19     0     0   74     1
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 575  548    21    17    0   530   383   19     0     0   74     1
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.03 1.00  1.00  1.00 1.00  1.13  1.00 1.05  1.00  1.00 1.05  1.05
Final Vol.:  592  548    21    17    0   598   383   20     0     0   77     1
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.99  0.99  0.95 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00
Lanes:       2.00 0.96  0.04  1.00 0.00  2.00  1.00 2.00  0.00  0.00 1.97  0.03
Final Sat.:  3610 1812    69  1805    0  3230  1805 3800     0     0 3751    49
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.30  0.30  0.01 0.00  0.19  0.21 0.01  0.00  0.00 0.02  0.02
Crit Moves:       ****        ****              ****                  ****
Green/Cycle: 0.25 0.35  0.35  0.10 0.00  0.45  0.25 0.45  0.00  0.00 0.20  0.20
Volume/Cap:  0.65 0.86  0.86  0.09 0.00  0.41  0.86 0.01  0.00  0.00 0.10  0.10
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   22.7 27.1  27.1  26.4  0.0  12.2  33.9  9.9   0.0   0.0 21.1  21.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  22.7 27.1  27.1  26.4  0.0  12.2  33.9  9.9   0.0   0.0 21.1  21.1
Queue:         15   16     1     0    0    11    12    0     0     0    2     0
**************************************************************************

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```
C-AM.CMD                Tue Nov 5, 1996 13:07:09                Page 17-1
--------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
              Maximum Marine/Minimum Rail Alternative
                            AM Peak Hour
--------------------------------------------------------------------------
                 Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
**************************************************************************
Intersection #16 7th St./ I-880 SB Ramps
**************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.331
Loss Time (sec):      5 (Y+R =  4 sec) Average Delay (sec/veh):      1.4
Optimal Cycle:       35              Level Of Service:                A
**************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0   20    20    10   20    20
Lanes:        0  0  0  0  0    0  0  0  0  0    0  0  2  0  1    2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0     0    0     0     0    0     0    65    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0    0     0     0    0     0     0    0     0    65    0     0
Added Vol:     0    0     0     0    0     0     0  386   478     0 1022     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0    0     0     0    0     0     0  386   478    65 1022     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0    0     0     0    0     0     0  386   478    65 1022     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0    0     0     0    0     0     0  386   478    65 1022     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.00  1.03 1.05  1.00
Final Vol.:    0    0     0     0    0     0     0  405   478    67 1073     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.85  0.95 1.00  1.00
Lanes:       0.00 0.00  0.00  0.00 0.00  0.00  0.00 2.00  1.00  2.00 2.00  0.00
Final Sat.:     0    0     0     0    0     0     0 3800  1615  3610 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.11  0.30  0.02 0.28  0.00
Crit Moves:                                               ****  ****
Green/Cycle: 0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.85  0.85  0.10 0.95  0.00
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.13  0.35  0.19 0.30  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.8   1.1  26.7  0.1   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.8   1.1  26.7  0.1   0.0
Queue:          0    0     0     0    0     0     0    2     3     2    2     0
**************************************************************************

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Table J.7-7 (Continued)

```
C-AM.CMD                Tue Nov 5, 1996 13:07:09                  Page 18-1
---------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Minimum Rail Alternative
                             AM Peak Hour
---------------------------------------------------------------------------
                   Level Of Service Computation Report
         1994 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
***************************************************************************
Average Delay (sec/veh):      3.9         Worst Case Level Of Service:    D
***************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include         Include          Include
Lanes:        0  0  1  1  0   1  0  2  0  0   0  0  0  0  0   1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0    89    30    0     0     0    0     0   140    0     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0    89    30    0     0     0    0     0   140    0     6
Added Vol:      0  383     0     0  436     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  383    89    30  436     0     0    0     0   140    0     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  383    89    30  436     0     0    0     0   140    0     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0  383    89    30  436     0     0    0     0   140    0     6
Adjusted Volume Module:
Grade:             0%               0%              0%               0%
% Cycle/Cars:   xxxx  xxxx       xxxx  xxxx      xxxx  xxxx       xxxx  xxxx
% Truck/Comb:   xxxx  xxxx       xxxx  xxxx      xxxx  xxxx       xxxx  xxxx
PCE Adj:     1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:   xxxx  xxxx       xxxx  xxxx      xxxx  xxxx       xxxx  xxxx
Trck/Cmb PCE:   xxxx  xxxx       xxxx  xxxx      xxxx  xxxx       xxxx  xxxx
Adj Vol.:       0  383    89    33  436     0     0    0     0   154    0     7
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx   2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx   5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   472 xxxx xxxxx  xxxx xxxx xxxxx   893 xxxx   236
Potent Cap.: xxxx xxxx xxxxx   956 xxxx xxxxx  xxxx xxxx xxxxx   284 xxxx  1051
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.97 xxxx  1.00
Move Cap.:   xxxx xxxx xxxxx   956 xxxx xxxxx  xxxx xxxx xxxxx   274 xxxx  1051
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   3.9 xxxx xxxxx xxxxx xxxx xxxxx  26.6 xxxx   3.4
LOS by Move:    *    *     *     A    *     *     *    *     *     D    *     A
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:        0.0               0.3              0.0              25.6

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```
C-AM.CMD                Tue Nov 5, 1996 13:07:09                  Page 19-1
---------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
               Maximum Marine/Minimum Rail Alternative
                             AM Peak Hour
---------------------------------------------------------------------------
                   Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
***************************************************************************
Cycle (sec):         100             Critical Vol./Cap. (X):          0.544
Loss Time (sec):      11 (Y+R =  4 sec) Average Delay (sec/veh):       21.2
Optimal Cycle:        81             Level Of Service:                    C
***************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   20    20    10   20    20
Lanes:        1  0  1  1  0   1  1  0  1  0   1  0  1  1  0   1  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    0     0   678   48     6    65  234    12     0  152   449
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9    0     0   678   48     6    65  234    12     0  152   449
Added Vol:      0  271   112     0  299     0     0  102     0   137  117     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    9  271   112   678  347     6    65  336    12   137  269   449
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  271   112   678  347     6    65  336    12   137  269   449
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    9  271   112   678  347     6    65  336    12   137  269   449
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05  1.05 1.00  1.00  1.00 1.05  1.05  1.00 1.10  1.10
Final Vol.:     9  285   118   712  347     6    65  352    13   137  296   494
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.96  0.96  0.95 1.00  1.00  0.95 0.99  0.99  0.95 0.91  0.91
Lanes:       1.00 1.41  0.59  2.00 0.98  0.02  1.00 1.93  0.07  1.00 1.12  1.88
Final Sat.:  1805 2580  1068  3610 1868    32  1805 3628   134  1805 1943  3244
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.11  0.11  0.20 0.19  0.19  0.04 0.10  0.10  0.08 0.15  0.15
Crit Moves:       ****             ****        ****                  ****
Green/Cycle: 0.20 0.20  0.20  0.33 0.33  0.33  0.10 0.24  0.24  0.12 0.26  0.26
Volume/Cap:  0.02 0.55  0.55  0.59 0.56  0.56  0.36 0.41  0.41  0.64 0.59  0.59
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   20.8 23.9  23.9  18.3 17.9  17.9  27.7 20.9  20.9  31.4 21.6  21.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.8 23.9  23.9  18.3 17.9  17.9  27.7 20.9  20.9  31.4 21.6  21.6
Queue:          0    7     3    17    8     0     2    8     0     4    7    12
***************************************************************************

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Table J.7-8

C-PM.CMD Tue Nov 5, 1996 12:31:57 Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	1135.00	Employees	0.06	0.22	68	250	318	5.6
	Zone 1 Subtotal					68	250	318	5.6
3	J.I.T.	208.00	Employees	0.10	0.36	21	75	96	1.7
	Zone 3 Subtotal					21	75	96	1.7
4	SP Rail Term	210.00	Employees	0.10	0.36	21	76	97	1.7
	Zone 4 Subtotal					21	76	97	1.7
6	Middle Harbr	516.00	Employees	0.06	0.22	31	114	145	2.5
	Zone 6 Subtotal					31	114	145	2.5
7	7th St Harbr	613.00	Employees	0.06	0.22	37	135	172	3.0
	Zone 7 Subtotal					37	135	172	3.0
8	Outer Harbor	706.00	Employees	0.06	0.21	42	148	190	3.3
	Zone 8 Subtotal					42	148	190	3.3
10	New Park	1.00	Total Trips	30.00	59.00	30	59	89	1.6
	Zone 10 Subtotal					30	59	89	1.6
11	New Harbor	1.00	Trucks Inter	246.00	295.00	246	295	541	9.5
	Zone 11 Subtotal					246	295	541	9.5
16	Middle Harbr	1.00	Trucks Inter	112.00	134.00	112	134	246	4.3
	Zone 16 Subtotal					112	134	246	4.3
17	7th St Harbr	1.00	Trucks Inter	133.00	159.00	133	159	292	5.1
	Zone 17 Subtotal					133	159	292	5.1
18	Outer Harbor	1.00	Trucks Inter	153.00	184.00	153	184	337	5.9
	Zone 18 Subtotal					153	184	337	5.9
21	New Harbor	1.00	Truck External	418.00	501.00	418	501	919	16.1
	Zone 21 Subtotal					418	501	919	16.1
23	J.I.T.	1.00	Truck External	175.00	210.00	175	210	385	6.7
	Zone 23 Subtotal					175	210	385	6.7
24	SP Rail Term	1.00	Truck External	178.00	213.00	178	213	391	6.9
	Zone 24 Subtotal					178	213	391	6.9
26	Middle Harbr	1.00	Truck External	190.00	228.00	190	228	418	7.3

C-PM.CMD Tue Nov 5, 1996 12:31:57 Page 1-2

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 26 Subtotal					190	228	418	7.3
27	7th St Harbr	1.00	Truck External	226.00	271.00	226	271	497	8.7
	Zone 27 Subtotal					226	271	497	8.7
28	Outer Harbor	1.00	Truck External	261.00	312.00	261	312	573	10.0
	Zone 28 Subtotal					261	312	573	10.0
TOTAL						2342	3364	5706	100.0

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
4	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	49.6	50.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
24	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Turning Movement Report
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime St./ Burma St.													
Base	5	590	0	0	109	0	0	0	50	0	0	0	754
Added	0	394	0	0	238	89	157	0	0	0	0	0	878
Total	5	984	0	0	347	89	157	0	50	0	0	0	1632
#4 Maritime St./ 14th St.													
Base	0	414	28	105	132	0	0	0	0	92	0	290	1061
Added	301	297	0	0	173	65	97	0	391	0	0	0	1324
Total	301	711	28	105	305	65	97	0	391	92	0	290	2385
#5 Maritime St./ 7th St. Extension													
Base	36	0	0	0	0	75	223	0	74	0	0	0	408
Added	396	479	0	0	447	116	120	0	429	0	0	0	1987
Total	432	479	0	0	447	191	343	0	503	0	0	0	2395
#6 7th St./ 7th St. Extension													
Base	0	0	0	31	18	0	0	0	19	0	0	0	68
Added	191	150	56	448	144	285	405	498	229	39	341	319	3104
Total	191	150	56	479	162	285	405	498	248	39	341	319	3172
#7 Middle Harbor/New Mddl Hrbr Rd													
Base	95	0	229	0	0	0	0	215	131	94	88	0	852
Added	0	0	538	0	0	0	0	217	0	257	260	0	1272
Total	95	0	767	0	0	0	0	432	131	351	348	0	2124
#8 Adeline St./ 3rd St.													
Base	36	0	122	43	0	15	30	14	13	89	39	78	479
Added	0	1041	0	0	670	0	0	0	0	0	0	0	1711
Total	36	1041	122	43	670	15	30	14	13	89	39	78	2190
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	508	0	0	0	0	624	0	391	426	0	1949
Total	0	0	508	0	0	0	0	624	0	391	426	0	1949
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	23	0	9	23	23	20	454	210	0	624	13	1399
Added	441	0	110	0	0	0	0	0	247	81	0	0	878
Total	441	23	110	9	23	23	20	454	457	81	624	13	2277
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	241	0	69	138	157	0	0	202	616	1423
Added	154	216	670	0	134	0	0	0	79	458	0	0	1711
Total	154	216	670	241	134	69	138	157	79	458	202	616	3134

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	194	281	0	144	30	31	97	18	32	31	34	892
Added	0	0	79	0	0	0	0	0	0	154	0	0	233
Total	0	194	360	0	144	30	31	97	18	186	31	34	1125
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	197	3	2	0	205	0	108	0	0	53	1	569
Added	381	0	0	0	0	316	447	11	0	0	3	0	1158
Total	381	197	3	2	0	521	447	119	0	0	56	1	1727
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	7	378	0	0	385
Added	0	0	0	0	0	0	0	458	543	0	700	0	1700
Total	0	0	0	0	0	0	0	458	550	378	700	0	2085
#17 14th St./ I-880 Frontage Rd.													
Base	0	62	130	4	0	0	0	0	0	115	0	7	318
Added	0	447	0	0	316	0	0	0	0	0	0	0	763
Total	0	509	130	4	316	0	0	0	0	115	0	7	1081
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	75	72	0	759	0	6	86	277	3	0	456	330	2064
Added	0	288	160	0	213	0	0	110	0	103	81	0	954
Total	75	360	160	759	213	6	86	387	3	103	537	330	3018
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	319	0	0	0	0	285	0	383	196	0	1183
Total	0	0	319	0	0	0	0	285	0	383	196	0	1183
#138													
Base	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
#158													
Base	0	-259	-163	0	0	0	0	0	0	0	0	0	-422
Added	0	340	148	0	0	0	0	0	0	0	0	0	487
Total	0	81	-15	0	0	0	0	0	0	0	0	0	65
#159													
Base	-259	0	0	0	0	0	0	0	0	0	-105	0	-364
Added	340	0	0	0	0	0	0	0	0	0	91	0	430
Total	81	0	0	0	0	0	0	0	0	0	-14	0	66

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#160													
Base	0	0	0	0	0	0	0	0	0	-105	-259	0	-364
Added	0	0	0	0	0	0	0	0	0	91	340	0	430
Total	0	0	0	0	0	0	0	0	0	-14	81	0	66
#161													
Base	0	0	0	0	-105	0	0	0	-150	0	0	0	-255
Added	0	0	0	0	91	0	0	0	181	0	0	0	271
Total	0	0	0	0	-14	0	0	0	31	0	0	0	16
#165													
Base	0	0	0	0	-126	0	0	0	-534	0	0	0	-660
Added	0	0	0	0	79	0	0	0	543	0	0	0	622
Total	0	0	0	0	-47	0	0	0	9	0	0	0	-38
#170													
Base	0	-205	-391	0	0	0	0	0	0	0	0	0	-596
Added	0	154	381	0	0	0	0	0	0	0	0	0	535
Total	0	-51	-10	0	0	0	0	0	0	0	0	0	-61
#177													
Base	0	0	0	0	-214	0	0	-163	0	0	0	0	-377
Added	0	0	0	0	268	0	0	148	0	0	0	0	415
Total	0	0	0	0	54	0	0	-15	0	0	0	0	38
#178													
Base	0	-323	0	0	0	0	-116	-47	0	0	0	0	-486
Added	0	395	0	0	0	0	88	60	0	0	0	0	543
Total	0	72	0	0	0	0	-28	13	0	0	0	0	57
#182													
Base	0	-439	0	0	0	-297	0	0	0	0	0	0	-736
Added	0	483	0	0	0	327	0	0	0	0	0	0	810
Total	0	44	0	0	0	30	0	0	0	0	0	0	74
#201													
Base	0	0	0	0	0	0	0	-1043	0	0	0	0	-104
Added	0	0	0	0	0	0	0	1213	0	0	0	0	1213
Total	0	0	0	0	0	0	0	170	0	0	0	0	170
#204													
Base	0	0	0	-375	-668	0	0	0	0	0	0	0	-1043
Added	0	0	0	419	795	0	0	0	0	0	0	0	1213
Total	0	0	0	44	127	0	0	0	0	0	0	0	170

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#207													
Base	0	-463	0	0	0	0	0	0	0	0	0	-278	-741
Added	0	529	0	0	0	0	0	0	0	0	0	309	839
Total	0	66	0	0	0	0	0	0	0	0	0	31	98
#214													
Base	0	0	0	0	0	0	0	0	0	-350	-391	0	-741
Added	0	0	0	0	0	0	0	0	0	458	381	0	839
Total	0	0	0	0	0	0	0	0	0	108	-10	0	98
#217													
Base	0	0	0	0	-19	0	0	-47	0	0	0	0	-66
Added	0	0	0	0	13	0	0	60	0	0	0	0	73
Total	0	0	0	0	-6	0	0	13	0	0	0	0	7
#218													
Base	0	-39	0	0	0	0	-31	-16	0	0	0	0	-86
Added	0	31	0	0	0	0	44	16	0	0	0	0	91
Total	0	-8	0	0	0	0	13	0	0	0	0	0	5
#219													
Base	0	-70	0	0	0	0	0	0	0	0	-5	0	-75
Added	0	75	0	0	0	0	0	0	0	0	5	0	79
Total	0	5	0	0	0	0	0	0	0	0	-0	0	4
#220													
Base	0	0	0	0	-19	-18	0	0	0	0	-5	0	-42
Added	0	0	0	0	13	27	0	0	0	0	5	0	45
Total	0	0	0	0	-6	9	0	0	0	0	-0	0	3
#225													
Base	0	0	0	0	0	0	0	0	0	0	-278	-5	-283
Added	0	0	0	0	0	0	0	0	0	0	309	5	314
Total	0	0	0	0	0	0	0	0	0	0	31	-0	31
#226													
Base	0	0	0	-16	0	0	0	-375	0	0	0	0	-391
Added	0	0	0	16	0	0	0	419	0	0	0	0	435
Total	0	0	0	0	0	0	0	44	0	0	0	0	44
#244													
Base	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609
Added	0	0	0	0	0	289	199	389	0	0	325	0	1202
Total	0	0	0	0	0	-13	-27	345	0	0	288	0	593

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Link Volume Report
PM Peak Hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#3 Maritime St./ Burma St.													
Base	595	159	754	109	590	699	50	5	55	0	0	0	1508
Added	394	238	632	328	551	878	157	89	246	0	0	0	1757
Total	989	397	1386	437	1141	1577	207	94	301	0	0	0	3265
#4 Maritime St./ 14th St.													
Base	442	224	666	237	704	941	0	0	0	382	133	515	2122
Added	599	564	1162	238	394	632	487	367	854	0	0	0	2649
Total	1041	788	1828	475	1098	1573	487	367	854	382	133	515	4771
#5 Maritime St./ 7th St. Extension													
Base	36	74	110	75	223	298	297	111	408	0	0	0	816
Added	875	876	1751	564	599	1162	549	512	1061	0	0	0	3974
Total	911	950	1861	639	822	1460	846	623	1469	0	0	0	4790
#6 7th St./ 7th St. Extension													
Base	0	37	37	49	0	49	19	0	19	0	31	31	136
Added	397	412	808	876	875	1751	1132	817	1949	700	1001	1700	6209
Total	397	449	845	925	875	1800	1151	817	1968	700	1032	1731	6345
#7 Middle Harbor/New Mddl Hrbr Rd													
Base	324	225	549	0	0	0	346	183	529	182	444	626	1704
Added	538	257	795	0	0	0	217	260	477	517	755	1272	2545
Total	862	482	1344	0	0	0	563	443	1006	699	1199	1898	4249
#8 Adeline St./ 3rd St.													
Base	158	102	260	58	108	166	57	90	147	206	179	385	958
Added	1041	670	1711	670	1041	1711	0	0	0	0	0	0	3423
Total	1199	772	1971	728	1149	1877	57	90	147	206	179	385	4381
#9 7th/New Middle Harbor													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	508	391	899	0	0	0	624	426	1050	817	1132	1949	3898
Total	508	391	899	0	0	0	624	426	1050	817	1132	1949	3898
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	23	233	256	55	56	111	684	647	1331	637	463	1100	2798
Added	551	328	878	0	0	0	247	441	688	81	110	190	1757
Total	574	561	1134	55	56	111	931	1088	2019	718	573	1290	4555
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	310	754	1064	295	271	566	818	398	1216	2846
Added	1041	671	1711	134	216	350	79	154	233	458	670	1128	3423
Total	1041	671	1711	444	970	1414	374	425	799	1276	1068	2344	6269

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#14 Union St./ 5th St./ I-880 North Ramps													
Base	475	194	669	174	259	433	146	61	207	97	378	475	1784
Added	79	154	233	0	0	0	0	0	0	154	79	233	467
Total	554	348	902	174	259	433	146	61	207	251	457	708	2251
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	200	0	200	207	198	405	108	258	366	54	113	167	1138
Added	381	0	381	316	447	763	458	700	1158	3	11	13	2315
Total	581	0	581	523	645	1168	566	958	1524	57	124	180	3453
#16 7th St./ I-880 SB Ramps													
Base	0	385	385	0	0	0	7	0	7	378	0	378	770
Added	0	543	543	0	0	0	1001	700	1700	700	458	1158	3401
Total	0	928	928	0	0	0	1008	700	1707	1078	458	1536	4171
#17 14th St./ I-880 Frontage Rd.													
Base	192	115	307	4	69	73	0	0	0	122	134	256	636
Added	447	316	763	316	447	763	0	0	0	0	0	0	1527
Total	639	431	1070	320	516	836	0	0	0	122	134	256	2163
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	147	3	150	765	488	1253	366	537	903	786	1036	1822	4128
Added	447	316	763	213	288	500	110	81	190	184	270	454	1908
Total	594	319	913	978	776	1753	476	618	1093	970	1306	2276	6036
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	319	383	702	0	0	0	285	196	481	579	604	1183	2367
Total	319	383	702	0	0	0	285	196	481	579	604	1183	2367
#138													
Base	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
#158													
Base	-422	0	-422	0	-259	-259	0	0	0	0	-163	-163	-844
Added	487	0	487	0	340	340	0	0	0	0	148	148	975
Total	65	0	65	0	81	81	0	0	0	0	-15	-15	131
#159													
Base	-259	0	-259	0	0	0	0	-364	-364	-105	0	-105	-728
Added	340	0	340	0	0	0	0	430	430	91	0	91	860
Total	81	0	81	0	0	0	0	66	66	-14	0	-14	132

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#160													
Base	0	-105	-105	0	0	0	0	-259	-259	-364	0	-364	-728
Added	0	91	91	0	0	0	0	340	340	430	0	430	860
Total	0	-14	-14	0	0	0	0	81	81	66	0	66	132
#161													
Base	0	-255	-255	-105	0	-105	-150	0	-150	0	0	0	-510
Added	0	271	271	91	0	91	181	0	181	0	0	0	543
Total	0	16	16	-14	0	-14	31	0	31	0	0	0	33
#165													
Base	0	-660	-660	-126	0	-126	-534	0	-534	0	0	0	-1320
Added	0	622	622	79	0	79	543	0	543	0	0	0	1244
Total	0	-38	-38	-47	0	-47	9	0	9	0	0	0	-76
#170													
Base	-596	0	-596	0	-205	-205	0	0	0	0	-391	-391	-1192
Added	535	0	535	0	154	154	0	0	0	0	381	381	1070
Total	-61	0	-61	0	-51	-51	0	0	0	0	-10	-10	-122
#177													
Base	0	-214	-214	-214	0	-214	-163	0	-163	0	-163	-163	-754
Added	0	268	268	268	0	268	148	0	148	0	148	148	831
Total	0	54	54	54	0	54	-15	0	-15	0	-15	-15	77
#178													
Base	-323	0	-323	0	-439	-439	-163	0	-163	0	-47	-47	-972
Added	395	0	395	0	483	483	148	0	148	0	60	60	1085
Total	72	0	72	0	44	44	-15	0	-15	0	13	13	113
#182													
Base	-439	0	-439	-297	-439	-736	0	-297	-297	0	0	0	-1472
Added	483	0	483	327	483	810	0	327	327	0	0	0	1619
Total	44	0	44	30	44	74	0	30	30	0	0	0	147
#201													
Base	0	0	0	0	0	0	-1043	0	-1043	0	-1043	-1043	-208
Added	0	0	0	0	0	0	1213	0	1213	0	1213	1213	2426
Total	0	0	0	0	0	0	170	0	170	0	170	170	340
#204													
Base	0	-668	-668	-1043	0	-1043	0	0	0	0	-375	-375	-2086
Added	0	795	795	1213	0	1213	0	0	0	0	419	419	2426
Total	0	127	127	170	0	170	0	0	0	0	44	44	340

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#207													
Base	-463	0	-463	0	-741	-741	0	0	0	-278	0	-278	-1482
Added	529	0	529	0	839	839	0	0	0	309	0	309	1677
Total	66	0	66	0	98	98	0	0	0	31	0	31	195
#214													
Base	0	-350	-350	0	0	0	0	-391	-391	-741	0	-741	-1482
Added	0	458	458	0	0	0	0	381	381	839	0	839	1677
Total	0	108	108	0	0	0	0	-10	-10	98	0	98	195
#217													
Base	0	-19	-19	-19	0	-19	-47	0	-47	0	-47	-47	-132
Added	0	13	13	13	0	13	60	0	60	0	60	60	147
Total	0	-6	-6	-6	0	-6	13	0	13	0	13	13	15
#218													
Base	-39	0	-39	0	-70	-70	-47	0	-47	0	-16	-16	-172
Added	31	0	31	0	75	75	60	0	60	0	16	16	182
Total	-8	0	-8	0	5	5	13	0	13	0	0	0	10
#219													
Base	-70	0	-70	0	-70	-70	0	-5	-5	-5	0	-5	-150
Added	75	0	75	0	75	75	0	5	5	5	0	5	158
Total	5	0	5	0	5	5	0	-0	-0	-0	0	-0	8
#220													
Base	0	-19	-19	-37	0	-37	0	-23	-23	-5	0	-5	-84
Added	0	13	13	40	0	40	0	31	31	5	0	5	89
Total	0	-6	-6	3	0	3	0	8	8	-0	0	-0	5
#225													
Base	0	0	0	0	-5	-5	0	-278	-278	-283	0	-283	-566
Added	0	0	0	0	5	5	0	309	309	314	0	314	628
Total	0	0	0	0	-0	-0	0	31	31	31	0	31	62
#226													
Base	0	0	0	-16	0	-16	-375	0	-375	0	-391	-391	-782
Added	0	0	0	16	0	16	419	0	419	0	435	435	870
Total	0	0	0	0	0	0	44	0	44	0	44	44	88
#244													
Base	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218
Added	0	0	0	289	199	488	588	614	1202	325	389	714	2403
Total	0	0	0	-13	-27	-40	318	275	593	288	345	633	1185

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 3 Maritime St./ Burma St.	B	7.2	0.211	B	9.4	0.329	+ 2.283 D/V
# 4 Maritime St./ 14th St.	C	15.9	0.392	C	19.5	0.774	+ 3.579 D/V
# 5 Maritime St./ 7th St. Extensio	B	5.8	0.080	B	12.7	0.473	+ 6.898 D/V
# 6 7th St./ 7th St. Extension	B	5.8	0.018	D	29.1	0.699	+23.263 D/V
# 7 Middle Harbor/New Mddl Hrbr Rd	B	13.5	0.296	C	21.3	0.830	+ 7.841 D/V
# 8 Adeline St./ 3rd St.	C	20.4	0.084	F	91.7	0.693	+71.346 D/V
# 9 7th/New Middle Harbor		0.0	0.000	C	20.7	0.765	+20.722 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.4	0.237	C	18.9	0.429	+ 6.576 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	17.6	0.328	C	22.4	0.656	+ 4.809 D/V
# 14 Union St./ 5th St./ I-880 Nort	B	12.5	0.178	C	15.7	0.199	+ 3.250 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	11.5	0.135	C	17.6	0.413	+ 6.181 D/V
# 16 7th St./ I-880 SB Ramps	A	2.6	0.113	B	5.7	0.472	+ 3.064 D/V
# 17 14th St./ I-880 Frontage Rd.	A	1.9	0.000	D	2.5	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	21.1	0.505	C	22.3	0.671	+ 1.232 D/V

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Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.329
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	9.4
Optimal Cycle:	58	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	5	590	0	0	109	0	0	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	590	0	0	109	0	0	0	50	0	0	0
Added Vol:	0	394	0	0	238	89	157	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	984	0	0	347	89	157	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	984	0	0	347	89	157	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	984	0	0	347	89	157	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	1033	0	0	365	94	157	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.97	0.97	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.59	0.41	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3800	0	1900	2931	755	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.12	0.12	0.09	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green/Cycle:	0.24	0.62	0.00	0.00	0.48	0.48	0.20	0.00	0.20	0.00	0.00	0.00
Volume/Cap:	0.01	0.44	0.00	0.00	0.26	0.26	0.43	0.00	0.15	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	18.7	6.5	0.0	0.0	10.0	10.0	23.2	0.0	21.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.7	6.5	0.0	0.0	10.0	10.0	23.2	0.0	21.4	0.0	0.0	0.0
Queue:	0	15	0	0	6	2	4	0	1	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.774
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	19.5
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	0	414	28	105	132	0	0	0	0	92	0	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	414	28	105	132	0	0	0	0	92	0	290
Added Vol:	301	297	0	0	173	65	97	0	391	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	301	711	28	105	305	65	97	0	391	92	0	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	301	711	28	105	305	65	97	0	391	92	0	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	711	28	105	305	65	97	0	391	92	0	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	301	747	29	105	320	69	97	0	391	92	0	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	0.97	0.97	0.58	1.00	0.58	0.40	1.00	0.85
Lanes:	1.00	1.93	0.07	1.00	1.65	0.35	0.20	0.00	0.80	1.00	0.00	1.00
Final Sat.:	1805	3621	141	1805	3032	654	221	0	890	760	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.21	0.21	0.06	0.11	0.11	0.44	0.00	0.44	0.12	0.00	0.18
Crit Moves:	****				****		****					
Green/Cycle:	0.20	0.30	0.30	0.10	0.20	0.20	0.52	0.00	0.72	0.52	0.00	0.52
Volume/Cap:	0.84	0.69	0.69	0.58	0.53	0.53	0.84	0.00	0.61	0.23	0.00	0.34
Level Of Service Module:												
Delay/Veh:	36.2	21.3	21.3	31.2	23.7	23.7	20.7	0.0	5.5	8.5	0.0	9.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	21.3	21.3	31.2	23.7	23.7	20.7	0.0	5.5	8.5	0.0	9.1
Queue:	10	19	1	3	8	2	3	0	6	1	0	5

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.473
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 12.7
Optimal Cycle: 48 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0 2 0 0			0 0 2 0 1			2 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	36	0	0	0	0	75	223	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	0	0	0	75	223	0	74	0	0	0
Added Vol:	396	479	0	0	447	116	120	0	429	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	432	479	0	0	447	191	343	0	503	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	432	479	0	0	447	191	343	0	503	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	432	479	0	0	447	191	343	0	503	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	445	502	0	0	470	191	353	0	503	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.13	0.00	0.00	0.12	0.12	0.10	0.00	0.31	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.26	0.52	0.00	0.00	0.26	0.66	0.40	0.00	0.66	0.00	0.00	0.00
Volume/Cap:	0.47	0.25	0.00	0.00	0.47	0.18	0.25	0.00	0.47	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	20.4	8.5	0.0	0.0	20.4	4.3	13.0	0.0	5.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.4	8.5	0.0	0.0	20.4	4.3	13.0	0.0	5.7	0.0	0.0	0.0
Queue:	11	8	0	0	11	2	7	0	7	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.699
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 29.1
Optimal Cycle: 68 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 0 1		
Volume Module:												
Base Vol:	0	0	0	31	18	0	0	0	19	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	18	0	0	0	19	0	0	0
Added Vol:	191	150	56	448	144	285	405	498	229	39	341	319
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	191	150	56	479	162	285	405	498	248	39	341	319
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	191	150	56	479	162	285	405	498	248	39	341	319
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	191	150	56	479	162	285	405	498	248	39	341	319
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.05	1.00
Final Vol.:	191	157	58	479	162	285	405	547	273	39	358	319
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	1.00	0.85	0.95	0.95	0.95	0.95	1.00	0.85
Lanes:	1.00	1.46	0.54	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	2664	984	1805	1900	1615	1805	3612	1803	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.06	0.06	0.27	0.09	0.18	0.22	0.15	0.15	0.02	0.09	0.20
Crit Moves:		****		****			****				****	
Green/Cycle:	0.28	0.20	0.20	0.28	0.20	0.20	0.24	0.20	0.20	0.24	0.20	0.48
Volume/Cap:	0.38	0.29	0.29	0.94	0.43	0.88	0.94	0.76	0.76	0.09	0.47	0.41
Level Of Service Module:												
Delay/Veh:	18.9	22.0	22.0	41.6	22.8	36.8	45.3	26.5	26.5	19.2	23.2	11.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.9	22.0	22.0	41.6	22.8	36.8	45.3	26.5	26.5	19.2	23.2	11.0
Queue:	4	4	1	16	4	10	14	15	8	1	9	6

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor/New Mddl Hrbr Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.830
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	21.3
Optimal Cycle:	134	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	95	0	229	0	0	0	0	215	131	94	88	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	0	229	0	0	0	0	215	131	94	88	0
Added Vol:	0	0	538	0	0	0	0	217	0	257	260	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	0	767	0	0	0	0	432	131	351	348	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	0	767	0	0	0	0	432	131	351	348	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	0	767	0	0	0	0	432	131	351	348	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
Final Vol.:	95	0	767	0	0	0	0	454	138	351	365	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.97	0.97	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.53	0.47	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2827	859	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.47	0.00	0.00	0.00	0.00	0.16	0.16	0.19	0.10	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.57	0.00	0.57	0.00	0.00	0.00	0.00	0.20	0.20	0.23	0.43	0.00
Volume/Cap:	0.09	0.00	0.84	0.00	0.00	0.00	0.00	0.80	0.80	0.84	0.22	0.00
Level Of Service Module:												
Delay/Veh:	6.4	0.0	16.3	0.0	0.0	0.0	0.0	29.1	29.1	33.2	11.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	6.4	0.0	16.3	0.0	0.0	0.0	0.0	29.1	29.1	33.2	11.5	0.0
Queue:	1	0	19	0	0	0	0	13	5	11	6	0

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.693
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	91.7
Optimal Cycle:	92	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0 1	0	0 1	0 1	0	0 1	0 1	0	0 1	0 1	0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	1041	0	0	670	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	1041	122	43	670	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	1041	122	43	670	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	1041	122	43	670	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	1093	128	45	704	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.06	1.74	0.20	0.12	1.84	0.04	1.00	0.52	0.48	0.84	0.39	0.77
Final Sat.:	114	3266	382	224	3497	79	1805	916	851	1512	663	1325
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.33	0.20	0.20	0.20	0.02	0.02	0.02	0.06	0.06	0.06
Crit Moves:			****		****			****			****	
Green/Cycle:	0.28	0.28	0.28	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.20	1.20	1.20	1.01	1.01	1.01	0.08	0.08	0.08	0.29	0.29	0.29
Level Of Service Module:												
Delay/Veh:	130.1	130	130.1	52.5	52.5	52.5	21.0	21.0	21.0	22.0	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	130.1	130	130.1	52.5	52.5	52.5	21.0	21.0	21.0	22.0	22.0	22.0
Queue:	4	69	10	3	27	1	1	0	0	2	1	2

Table J.7-8 (Continued)

```
C-PM.CMD                Tue Nov 5, 1996 12:31:58                  Page 12-1
-----------------------------------------------------------------------------
                       FISCO/Port Vision 2000 EIS/EIR
                  Maximum Marine/Minimum Rail Alternative
                               PM Peak Hour
-----------------------------------------------------------------------------
                     Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #9 7th/New Middle Harbor
*****************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.765
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):     20.7
Optimal Cycle:       58             Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:   10    0    20     0    0     0     0   20    20    10   20     0
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0     0    0     0     0    0     0     0    0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0     0    0     0     0    0     0     0    0     0
Added Vol:       0    0   508     0    0     0     0  624     0   391  426     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0    0   508     0    0     0     0  624     0   391  426     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0    0   508     0    0     0     0  624     0   391  426     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:     0    0   508     0    0     0     0  624     0   391  426     0
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.05  1.00 1.05  1.00
Final Vol.:      0    0   508     0    0     0     0  655     0   391  447     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   1.00 1.00  0.85  1.00 1.00  1.00  1.00 1.00  1.00  0.95 1.00  1.00
Lanes:        1.00 0.00  1.00  0.00 0.00  0.00  0.00 2.00  0.00  1.00 2.00  0.00
Final Sat.:   1900    0  1615     0    0     0     0 3800     0  1805 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.00 0.00  0.31  0.00 0.00  0.00  0.00 0.17  0.00  0.22 0.12  0.00
Crit Moves:              ****                        ****        ****
Green/Cycle:  0.00 0.00  0.41  0.00 0.00  0.00  0.00 0.23  0.00  0.28 0.51  0.00
Volume/Cap:   0.00 0.00  0.76  0.00 0.00  0.00  0.00 0.76  0.00  0.76 0.23  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:     0.0  0.0  20.0   0.0  0.0   0.0   0.0 26.3   0.0  25.9  8.8   0.0
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:    0.0  0.0  20.0   0.0  0.0   0.0   0.0 26.3   0.0  25.9  8.8   0.0
Queue:           0    0    13     0    0     0     0   18     0    11    7     0
*****************************************************************************
```



```
C-PM.CMD                Tue Nov 5, 1996 12:31:58                  Page 13-1
-----------------------------------------------------------------------------
                       FISCO/Port Vision 2000 EIS/EIR
                  Maximum Marine/Minimum Rail Alternative
                               PM Peak Hour
-----------------------------------------------------------------------------
                     Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps
*****************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.429
Loss Time (sec):     10 (Y+R =  4 sec) Average Delay (sec/veh):     18.9
Optimal Cycle:       70             Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:   10   20    20    10   20    20    10   20    20    10   20    20
Lanes:        2  0  0  1  0    1  0  0  1  0    1  0  1  1  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   23     0     9   23    23    20  454   210     0  624    13
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0   23     0     9   23    23    20  454   210     0  624    13
Added Vol:     441    0   110     0    0     0     0    0   247    81    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   441   23   110     9   23    23    20  454   457    81  624    13
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    441   23   110     9   23    23    20  454   457    81  624    13
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   441   23   110     9   23    23    20  454   457    81  624    13
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.03 1.00  1.00  1.00 1.00  1.00  1.00 1.10  1.10  1.00 1.05  1.05
Final Vol.:    454   23   110     9   23    23    20  499   503    81  655    14
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 0.88  0.88  0.95 0.93  0.93  0.95 0.93  0.93  0.95 1.00  1.00
Lanes:        2.00 0.17  0.83  1.00 0.50  0.50  1.00 1.49  1.51  1.00 1.96  0.04
Final Sat.:   3610  289  1383  1805  884   884  1805 2640  2661  1805 3720    80
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.13 0.08  0.08  0.00 0.03  0.03  0.01 0.19  0.19  0.04 0.18  0.18
Crit Moves:   ****                  ****              ****        ****
Green/Cycle:  0.24 0.29  0.29  0.15 0.20  0.20  0.15 0.36  0.36  0.10 0.31  0.31
Volume/Cap:   0.52 0.27  0.27  0.03 0.13  0.13  0.07 0.52  0.52  0.45 0.57  0.57
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    21.8 17.6  17.6  23.6 21.2  21.2  23.4 16.5  16.5  28.6 19.4  19.4
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   21.8 17.6  17.6  23.6 21.2  21.2  23.4 16.5  16.5  28.6 19.4  19.4
Queue:          11    1     2     0    1     1     0   11    11     2   16     0
*****************************************************************************
```

Table J.7-8 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec):	100	Critical Vol./Cap. (X):	0.656
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	22.4
Optimal Cycle:	82	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	10	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	1 1	0 1	0	1 0	0 1	1
Volume Module:												
Base Vol:	0	0	0	241	0	69	138	157	0	0	202	616
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	241	0	69	138	157	0	0	202	616
Added Vol:	154	216	670	0	134	0	0	0	79	458	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	216	670	241	134	69	138	157	79	458	202	616
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	216	670	241	134	69	138	157	79	458	202	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	216	670	241	134	69	138	157	79	458	202	308
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.05	1.10	1.10	1.10	1.00	1.05	1.05
Final Vol.:	154	216	670	241	140	72	152	173	87	458	212	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	1.32	0.68	1.11	1.26	0.63	1.00	0.79	1.21
Final Sat.:	1805	1900	1615	1805	2384	1226	1999	2275	1144	1805	1370	2088
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.41	0.13	0.06	0.06	0.08	0.08	0.08	0.25	0.15	0.15
Crit Moves:		****		****					****	****		
Green/Cycle:	0.12	0.20	0.51	0.17	0.24	0.24	0.20	0.20	0.20	0.31	0.31	0.31
Volume/Cap:	0.70	0.57	0.81	0.81	0.24	0.24	0.38	0.38	0.38	0.81	0.49	0.49
Level Of Service Module:												
Delay/Veh:	33.6	23.7	16.2	36.2	19.7	19.7	22.5	22.5	22.5	26.2	18.3	18.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	23.7	16.2	36.2	19.7	19.7	22.5	22.5	22.5	26.2	18.3	18.3
Queue:	5	6	17	8	3	2	4	4	2	13	5	7

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.199
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	15.7
Optimal Cycle:	71	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0	1 1	1	0 0	1 1	0	0 1	0 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	194	281	0	144	30	31	97	18	32	31	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	194	281	0	144	30	31	97	18	32	31	34
Added Vol:	0	0	79	0	0	0	0	0	0	154	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	194	360	0	144	30	31	97	18	186	31	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	194	360	0	144	30	31	97	18	186	31	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	194	360	0	144	30	31	97	18	186	31	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	213	396	0	151	32	33	102	19	186	31	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.90	0.90	1.00	0.97	0.97	0.97	0.97	0.97	0.95	1.00	0.85
Lanes:	0.00	1.05	1.95	0.00	1.65	0.35	0.43	1.32	0.25	1.00	1.00	1.00
Final Sat.:	0	1794	3336	0	3041	645	790	2442	455	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.12	0.00	0.05	0.05	0.04	0.04	0.04	0.10	0.02	0.02
Crit Moves:		****		****				****			****	
Green/Cycle:	0.00	0.37	0.37	0.00	0.37	0.37	0.20	0.20	0.20	0.32	0.32	0.32
Volume/Cap:	0.00	0.32	0.32	0.00	0.13	0.13	0.21	0.21	0.21	0.32	0.05	0.07
Level Of Service Module:												
Delay/Veh:	0.0	14.6	14.6	0.0	13.5	13.5	21.6	21.6	21.6	16.7	15.2	15.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.6	14.6	0.0	13.5	13.5	21.6	21.6	21.6	16.7	15.2	15.2
Queue:	0	4	8	0	3	1	1	2	0	4	1	1

Table J.7-8 (Continued)


```
------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                   Maximum Marine/Minimum Rail Alternative
                                PM Peak Hour
------------------------------------------------------------------------------
                     Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
******************************************************************************
Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.
******************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.413
Loss Time (sec):     10 (Y+R =  4 sec) Average Delay (sec/veh):       17.6
Optimal Cycle:       70               Level Of Service:                  C
******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include           Ovl             Include          Include
Min. Green:   10   20    20    10   20    20    10   20    20     0   20    20
Lanes:         2  0  0  1  0    1  0  0  0  2    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  197     3     2    0   205     0  108     0     0   53     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  197     3     2    0   205     0  108     0     0   53     1
Added Vol:    381    0     0     0    0   316   447   11     0     0    3     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  381  197     3     2    0   521   447  119     0     0   56     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   381  197     3     2    0   521   447  119     0     0   56     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  381  197     3     2    0   521   447  119     0     0   56     1
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.03 1.00  1.00  1.00 1.00  1.13  1.00 1.05  1.00  1.00 1.05  1.05
Final Vol.:   392  197     3     2    0   589   447  124     0     0   59     1
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  1.00  0.95 1.00  0.85  0.95 1.00  1.00  1.00 1.00  1.00
Lanes:       2.00 0.98  0.02  1.00 0.00  2.00  1.00 2.00  0.00  0.00 1.97  0.03
Final Sat.:  3610 1872    29  1805    0  3230  1805 3800     0     0 3737    63
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.11  0.00 0.00  0.18  0.25 0.03  0.00  0.00 0.02  0.02
Crit Moves:  ****                   ****        ****                   ****
Green/Cycle: 0.15 0.23  0.23  0.12 0.00  0.55  0.35 0.55  0.00  0.00 0.20  0.20
Volume/Cap:  0.71 0.45  0.45  0.01 0.00  0.33  0.71 0.06  0.00  0.00 0.08  0.08
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   29.0 21.6  21.6  25.2  0.0   8.1  20.9  6.8   0.0   0.0 21.0  21.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  29.0 21.6  21.6  25.2  0.0   8.1  20.9  6.8   0.0   0.0 21.0  21.0
Queue:         11    5     0     0    0     9    11    2     0     0    1     0
******************************************************************************
```



```
------------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                   Maximum Marine/Minimum Rail Alternative
                                PM Peak Hour
------------------------------------------------------------------------------
                     Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
******************************************************************************
Intersection #16 7th St./ I-880 SB Ramps
******************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.472
Loss Time (sec):      5 (Y+R =  4 sec) Average Delay (sec/veh):        5.7
Optimal Cycle:       35               Level Of Service:                  B
******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0   20    20    10   20    20
Lanes:         0  0  0  0  0    0  0  0  0  0    0  0  2  0  1    2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     0     0    0     7   378    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     0     0    0     7   378    0     0
Added Vol:      0    0     0     0    0     0     0  458   543     0  700     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     0    0     0     0  458   550   378  700     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0     0     0  458   550   378  700     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0     0     0  458   550   378  700     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.05  1.00  1.03 1.05  1.00
Final Vol.:     0    0     0     0    0     0     0  481   550   389  735     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.85  0.95 1.00  1.00
Lanes:       0.00 0.00  0.00  0.00 0.00  0.00  0.00 2.00  1.00  2.00 2.00  0.00
Final Sat.:     0    0     0     0    0     0     0 3800  1615  3610 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.13  0.34  0.11 0.19  0.00
Crit Moves:                                               ****  ****
Green/Cycle: 0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.72  0.72  0.23 0.95  0.00
Volume/Cap:  0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.18  0.47  0.47 0.20  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0  0.0   0.0   0.0  0.0   0.0   0.0  2.9   4.0  21.9  0.1   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   0.0  0.0   0.0   0.0  2.9   4.0  21.9  0.1   0.0
Queue:          0    0     0     0    0     0     0    4     7     9    1     0
******************************************************************************
```

Table J.7-8 (Continued)

```
C-PM.CMD              Tue Nov 5, 1996 12:31:58              Page 18-1
------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
              Maximum Marine/Minimum Rail Alternative
                            PM Peak Hour
------------------------------------------------------------------------
                  Level Of Service Computation Report
       1994 HCM Unsignalized Method (Future Volume Alternative)
************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
************************************************************************
Average Delay (sec/veh):      2.5        Worst Case Level Of Service:   D
************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled     Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   62   130     4    0     0     0    0     0   115    0     7
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0   62   130     4    0     0     0    0     0   115    0     7
Added Vol:       0  447     0     0  316     0     0    0     0     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0  509   130     4  316     0     0    0     0   115    0     7
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  509   130     4  316     0     0    0     0   115    0     7
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0  509   130     4  316     0     0    0     0   115    0     7
Adjusted Volume Module:
Grade:             0%               0%               0%               0%
% Cycle/Cars:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:      1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:        0  509   130     4  316     0     0    0     0   127    0     8
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx   2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx   5.5
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   639 xxxx xxxxx  xxxx xxxx xxxxx   894 xxxx   320
Potent Cap.: xxxx xxxx xxxxx   778 xxxx xxxxx  xxxx xxxx xxxxx   284 xxxx   954
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.99 xxxx  1.00
Move Cap.:   xxxx xxxx xxxxx   778 xxxx xxxxx  xxxx xxxx xxxxx   282 xxxx   954
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   4.7 xxxx xxxxx xxxxx xxxx xxxxx  21.5 xxxx   3.8
LOS by Move:     *    *     *     A    *     *     *    *     *     D    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:        0.0              0.1              0.0             20.5

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```

```
C-PM.CMD              Tue Nov 5, 1996 12:31:58              Page 19-1
------------------------------------------------------------------------
                    FISCO/Port Vision 2000 EIS/EIR
              Maximum Marine/Minimum Rail Alternative
                            PM Peak Hour
------------------------------------------------------------------------
                  Level Of Service Computation Report
       1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.671
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):     22.3
Optimal Cycle:       81              Level Of Service:                 C
************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   20    20    10   20    20
Lanes:        1  0  1  1  0    1  1  0  1  0    1  0  1  1  0    1  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       75   72     0   759    0     6    86  277     3     0  456   330
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    75   72     0   759    0     6    86  277     3     0  456   330
Added Vol:       0  288   160     0  213     0     0  110     0   103   81     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    75  360   160   759  213     6    86  387     3   103  537   330
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     75  360   160   759  213     6    86  387     3   103  537   330
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    75  360   160   759  213     6    86  387     3   103  537   330
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.05  1.05  1.05 1.00  1.00  1.00 1.05  1.05  1.00 1.10  1.10
Final Vol.:     75  378   168   797  213     6    86  406     3   103  590   363
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 0.95  0.95  0.95 1.00  1.00  0.95 1.00  1.00  0.95 0.94  0.94
Lanes:        1.00 1.38  0.62  2.00 0.97  0.03  1.00 1.99  0.01  1.00 1.86  1.14
Final Sat.:   1805 2499  1111  3610 1848    52  1805 3772    28  1805 3317  2041
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.04 0.15  0.15  0.22 0.12  0.12  0.05 0.11  0.11  0.06 0.18  0.18
Crit Moves:        ****        ****             ****                   ****
Green/Cycle:  0.22 0.22  0.22  0.32 0.32  0.32  0.10 0.24  0.24  0.12 0.26  0.26
Volume/Cap:   0.19 0.70  0.70  0.70 0.36  0.36  0.48 0.45  0.45  0.48 0.70  0.70
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    20.7 25.2  25.2  20.4 17.1  17.1  29.0 21.3  21.3  28.0 22.9  22.9
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   20.7 25.2  25.2  20.4 17.1  17.1  29.0 21.3  21.3  28.0 22.9  22.9
Queue:           2   10     5    20    5     0     2   10     0     3   15    10
************************************************************************

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Table J.7-9

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	1088.00	Employees	0.26	0.05	283	54	337	5.3
	Zone 1 Subtotal					283	54	337	5.3
3	J.I.T.	343.00	Employees	0.40	0.09	137	31	168	2.7
	Zone 3 Subtotal					137	31	168	2.7
6	Middle Harbr	516.00	Employees	0.26	0.05	134	26	160	2.5
	Zone 6 Subtotal					134	26	160	2.5
7	7th St Harbr	613.00	Employees	0.26	0.05	159	31	190	3.0
	Zone 7 Subtotal					159	31	190	3.0
8	Outer Harbor	706.00	Employees	0.26	0.05	184	35	219	3.5
	Zone 8 Subtotal					184	35	219	3.5
10	New Park	1.00	Total Trips	29.00	19.00	29	19	48	0.8
	Zone 10 Subtotal					29	19	48	0.8
11	New Harbor	1.00	Trucks Inter	279.00	297.00	279	297	576	9.1
	Zone 11 Subtotal					279	297	576	9.1
16	Middle Harbr	1.00	Trucks Inter	132.00	141.00	132	141	273	4.3
	Zone 16 Subtotal					132	141	273	4.3
17	7th St Harbr	1.00	Trucks Inter	158.00	168.00	158	168	326	5.2
	Zone 17 Subtotal					158	168	326	5.2
18	Outer Harbor	1.00	Trucks Inter	181.00	193.00	181	193	374	5.9
	Zone 18 Subtotal					181	193	374	5.9
21	New Harbor	1.00	Truck External	497.00	529.00	497	529	1026	16.2
	Zone 21 Subtotal					497	529	1026	16.2
23	J.I.T.	1.00	Truck External	431.00	459.00	431	459	890	14.1
	Zone 23 Subtotal					431	459	890	14.1
26	Middle Harbr	1.00	Truck External	236.00	251.00	236	251	487	7.7
	Zone 26 Subtotal					236	251	487	7.7
27	7th St Harbr	1.00	Truck External	280.00	298.00	280	298	578	9.1
	Zone 27 Subtotal					280	298	578	9.1
28	Outer Harbor	1.00	Truck External	323.00	343.00	323	343	666	10.5

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					323	343	666	10.5
TOTAL						3443	2875	6318	100.0

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Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Turning Movement Report
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#3 Maritime St./ Burma St.													
Base	5	78	0	0	287	0	0	0	5	0	0	0	375
Added	0	253	0	0	387	178	107	0	0	0	0	0	925
Total	5	331	0	0	674	178	107	0	5	0	0	0	1300
#4 Maritime St./ 14th St.													
Base	0	91	39	103	261	0	0	0	0	22	0	87	603
Added	404	171	0	0	281	106	82	0	382	0	0	0	1426
Total	404	262	39	103	542	106	82	0	382	22	0	87	2029
#5 Maritime St./ 7th St. Extension													
Base	159	0	0	0	0	334	69	0	37	0	0	0	599
Added	947	335	0	0	384	279	240	0	868	0	0	0	3053
Total	1106	335	0	0	384	613	309	0	905	0	0	0	3652
#6 7th St./ 7th St. Extension													
Base	0	0	0	0	0	0	0	0	0	0	0	54	54
Added	0	0	0	620	0	632	577	303	0	0	375	705	3213
Total	0	0	0	620	0	632	577	303	0	0	375	759	3267
#7													
Base	53	0	45	0	0	0	0	0	39	208	338	0	683
Added	0	0	0	0	0	0	0	516	0	0	678	0	1194
Total	53	0	45	0	0	0	0	516	39	208	1016	0	1877
#8 Adeline St./ 3rd St.													
Base	8	0	31	26	0	26	8	6	29	50	59	56	299
Added	0	793	0	0	1048	0	0	0	0	0	0	0	1841
Total	8	793	31	26	1048	26	8	6	29	50	59	56	2140
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	1	1
Added	17	0	368	0	0	0	0	513	3	399	609	0	1908
Total	17	0	368	0	0	0	0	513	3	399	609	1	1909
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	368	0	512	0	0	0	0	3	399	660	17	0	1960
Total	368	0	512	0	0	0	0	3	399	660	17	0	1960
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	33	0	16	28	47	48	394	438	0	300	9	1313
Added	297	0	63	0	0	0	0	0	484	81	0	0	925
Total	297	33	63	16	28	47	48	394	922	81	300	9	2238

Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	72	109	165	256	51	0	0	169	364	1186
Added	198	153	442	0	209	0	0	0	270	570	0	0	1841
Total	198	153	442	72	318	165	256	51	270	570	169	364	3027
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	175	45	0	154	31	24	43	13	205	31	115	836
Added	0	0	270	0	0	0	0	0	0	198	0	0	468
Total	0	175	315	0	154	31	24	43	13	403	31	115	1304
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	548	21	17	0	94	0	16	0	0	62	1	759
Added	697	0	0	0	0	365	314	4	0	0	19	0	1399
Total	697	548	21	17	0	459	314	20	0	0	81	1	2158
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	0	65	0	0	65
Added	0	0	0	0	0	0	0	318	605	0	1081	0	2003
Total	0	0	0	0	0	0	0	318	605	65	1081	0	2068
#17 14th St./ I-880 Frontage Rd.													
Base	0	0	89	30	0	0	0	0	0	140	0	6	265
Added	0	314	0	0	365	0	0	0	0	0	0	0	679
Total	0	314	89	30	365	0	0	0	0	140	0	6	944
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	0	0	678	48	6	65	234	12	0	152	449	1653
Added	0	162	152	0	193	0	0	63	0	172	81	0	823
Total	9	162	152	678	241	6	65	297	12	172	233	449	2476
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	750	0	0	0	0	490	0	799	568	0	2607
Total	0	0	750	0	0	0	0	490	0	799	568	0	2607
#138													
Base	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-156	0	0	-173	-26	-24	0	0	0	0	0	-379
#158													
Base	0	-180	-129	0	0	0	0	0	0	0	0	0	-309
Added	0	210	116	0	0	0	0	0	0	0	0	0	326
Total	0	30	-13	0	0	0	0	0	0	0	0	0	17

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#159													
Base	-180	0	0	0	0	0	0	0	0	0	-178	0	-358
Added	210	0	0	0	0	0	0	0	0	0	171	0	381
Total	30	0	0	0	0	0	0	0	0	0	-7	0	23
#160													
Base	0	0	0	0	0	0	0	0	0	-178	-180	0	-358
Added	0	0	0	0	0	0	0	0	0	171	210	0	381
Total	0	0	0	0	0	0	0	0	0	-7	30	0	23
#161													
Base	0	0	0	0	-178	0	0	0	-286	0	0	0	-464
Added	0	0	0	0	171	0	0	0	365	0	0	0	536
Total	0	0	0	0	-7	0	0	0	79	0	0	0	72
#165													
Base	0	0	0	0	-227	0	0	0	-495	0	0	0	-722
Added	0	0	0	0	270	0	0	0	605	0	0	0	874
Total	0	0	0	0	43	0	0	0	110	0	0	0	152
#170													
Base	0	-153	-564	0	0	0	0	0	0	0	0	0	-717
Added	0	198	697	0	0	0	0	0	0	0	0	0	895
Total	0	45	133	0	0	0	0	0	0	0	0	0	178
#177													
Base	0	0	0	0	-351	0	0	-129	0	0	0	0	-480
Added	0	0	0	0	410	0	0	116	0	0	0	0	526
Total	0	0	0	0	59	0	0	-13	0	0	0	0	46
#178													
Base	0	-266	0	0	0	0	-104	-25	0	0	0	0	-395
Added	0	332	0	0	0	0	75	41	0	0	0	0	447
Total	0	66	0	0	0	0	-29	16	0	0	0	0	52
#182													
Base	0	-370	0	0	0	-475	0	0	0	0	0	0	-845
Added	0	406	0	0	0	506	0	0	0	0	0	0	912
Total	0	36	0	0	0	31	0	0	0	0	0	0	67
#201													
Base	0	0	0	0	0	0	0	-932	0	0	0	0	-932
Added	0	0	0	0	0	0	0	1046	0	0	0	0	1046
Total	0	0	0	0	0	0	0	114	0	0	0	0	114

Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#204													
Base	0	0	0	-352	-580	0	0	0	0	0	0	0	-932
Added	0	0	0	392	655	0	0	0	0	0	0	0	1046
Total	0	0	0	40	75	0	0	0	0	0	0	0	114
#207													
Base	0	-714	0	0	0	0	0	0	0	0	0	-396	-1110
Added	0	835	0	0	0	0	0	0	0	0	0	432	1266
Total	0	121	0	0	0	0	0	0	0	0	0	36	156
#214													
Base	0	0	0	0	0	0	0	0	0	-546	-564	0	-1110
Added	0	0	0	0	0	0	0	0	0	570	697	0	1266
Total	0	0	0	0	0	0	0	0	0	24	133	0	156
#217													
Base	0	0	0	0	-45	0	0	-25	0	0	0	0	-70
Added	0	0	0	0	26	0	0	41	0	0	0	0	67
Total	0	0	0	0	-19	0	0	16	0	0	0	0	-3
#218													
Base	0	-21	0	0	0	0	-21	-4	0	0	0	0	-46
Added	0	9	0	0	0	0	37	4	0	0	0	0	50
Total	0	-12	0	0	0	0	16	-0	0	0	0	0	4
#219													
Base	0	-43	0	0	0	0	0	0	0	0	-20	0	-63
Added	0	46	0	0	0	0	0	0	0	0	20	0	67
Total	0	3	0	0	0	0	0	0	0	0	0	0	4
#220													
Base	0	0	0	0	-45	-34	0	0	0	0	-20	0	-99
Added	0	0	0	0	26	55	0	0	0	0	20	0	100
Total	0	0	0	0	-19	21	0	0	0	0	0	0	1
#225													
Base	0	0	0	0	0	0	0	0	0	0	-396	-20	-416
Added	0	0	0	0	0	0	0	0	0	0	432	20	452
Total	0	0	0	0	0	0	0	0	0	0	36	0	36
#226													
Base	0	0	0	-4	0	0	0	-352	0	0	0	0	-356
Added	0	0	0	4	0	0	0	392	0	0	0	0	395
Total	0	0	0	-0	0	0	0	40	0	0	0	0	39

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#244													
Base	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	-288	-312	-47	0	0	-45	0	-692

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Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Link Volume Report
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	83	292	375	287	78	365	5	5	10	0	0	0	750
Added	253	387	640	565	360	925	107	178	285	0	0	0	1850
Total	336	679	1015	852	438	1290	112	183	295	0	0	0	2600
#4 Maritime St./ 14th St.													
Base	130	283	413	364	178	542	0	0	0	109	142	251	1206
Added	575	663	1238	387	253	640	464	510	974	0	0	0	2852
Total	705	946	1651	751	431	1182	464	510	974	109	142	251	4058
#5 Maritime St./ 7th St. Extension													
Base	159	37	196	334	69	403	106	493	599	0	0	0	1198
Added	1282	1252	2534	663	575	1238	1108	1226	2334	0	0	0	6106
Total	1441	1289	2730	997	644	1641	1214	1719	2933	0	0	0	7304
#6 7th St./ 7th St. Extension													
Base	0	0	0	0	54	54	0	0	0	54	0	54	108
Added	0	0	0	1252	1282	2534	880	1007	1887	1081	923	2003	6425
Total	0	0	0	1252	1336	2588	880	1007	1887	1135	923	2057	6533
#7													
Base	98	247	345	0	0	0	39	391	430	546	45	591	1366
Added	0	0	0	0	0	0	516	678	1194	678	516	1194	2387
Total	98	247	345	0	0	0	555	1069	1624	1224	561	1785	3753
#8 Adeline St./ 3rd St.													
Base	39	79	118	52	64	116	43	93	136	165	63	228	598
Added	793	1048	1841	1048	793	1841	0	0	0	0	0	0	3681
Total	832	1127	1959	1100	857	1957	43	93	136	165	63	228	4279
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	1	1	0	0	0	1	0	1	2
Added	385	402	787	0	0	0	516	626	1142	1007	880	1887	3817
Total	385	402	787	0	1	1	516	626	1142	1008	880	1888	3819
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	880	1059	1939	0	0	0	402	385	787	678	516	1194	3920
Total	880	1059	1939	0	0	0	402	385	787	678	516	1194	3920
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	33	466	499	91	90	181	880	347	1227	309	410	719	2626
Added	360	565	925	0	0	0	484	297	781	81	63	144	1850
Total	393	1031	1424	91	90	181	1364	644	2008	390	473	863	4476

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	109	109	346	620	966	307	334	641	533	123	656	2372
Added	793	1048	1841	209	153	361	270	198	468	570	442	1011	3681
Total	793	1157	1950	555	773	1327	577	532	1109	1103	565	1667	6053
#14 Union St./ 5th St./ I-880 North Ramps													
Base	220	372	592	185	314	499	80	62	142	351	88	439	1672
Added	270	198	468	0	0	0	0	0	0	198	270	468	935
Total	490	570	1060	185	314	499	80	62	142	549	358	907	2607
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	569	0	569	111	549	660	16	156	172	63	54	117	1518
Added	697	0	697	365	314	679	318	1081	1399	19	4	24	2798
Total	1266	0	1266	476	863	1339	334	1237	1571	82	58	141	4316
#16 7th St./ I-880 SB Ramps													
Base	0	65	65	0	0	0	0	0	0	65	0	65	130
Added	0	605	605	0	0	0	923	1081	2003	1081	318	1399	4007
Total	0	670	670	0	0	0	923	1081	2003	1146	318	1464	4137
#17 14th St./ I-880 Frontage Rd.													
Base	89	140	229	30	6	36	0	0	0	146	119	265	530
Added	314	365	679	365	314	679	0	0	0	0	0	0	1357
Total	403	505	908	395	320	715	0	0	0	146	119	265	1887
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	9	60	69	732	514	1246	311	167	478	601	912	1513	3306
Added	314	365	679	193	162	354	63	81	144	253	215	468	1645
Total	323	425	748	925	676	1600	374	248	622	854	1127	1981	4951
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	750	799	1549	0	0	0	490	568	1058	1367	1240	2607	5214
Total	750	799	1549	0	0	0	490	568	1058	1367	1240	2607	5214
#138													
Base	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-156	-173	-329	-199	-180	-379	-24	-26	-50	0	0	0	-758
#158													
Base	-309	0	-309	0	-180	-180	0	0	0	0	-129	-129	-618
Added	326	0	326	0	210	210	0	0	0	0	116	116	651
Total	17	0	17	0	30	30	0	0	0	0	-13	-13	33

Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#159													
Base	-180	0	-180	0	0	0	0	-358	-358	-178	0	-178	-716
Added	210	0	210	0	0	0	0	381	381	171	0	171	761
Total	30	0	30	0	0	0	0	23	23	-7	0	-7	45
#160													
Base	0	-178	-178	0	0	0	0	-180	-180	-358	0	-358	-716
Added	0	171	171	0	0	0	0	210	210	381	0	381	761
Total	0	-7	-7	0	0	0	0	30	30	23	0	23	45
#161													
Base	0	-464	-464	-178	0	-178	-286	0	-286	0	0	0	-928
Added	0	536	536	171	0	171	365	0	365	0	0	0	1072
Total	0	72	72	-7	0	-7	79	0	79	0	0	0	144
#165													
Base	0	-722	-722	-227	0	-227	-495	0	-495	0	0	0	-1444
Added	0	874	874	270	0	270	605	0	605	0	0	0	1748
Total	0	152	152	43	0	43	110	0	110	0	0	0	304
#170													
Base	-717	0	-717	0	-153	-153	0	0	0	0	-564	-564	-1434
Added	895	0	895	0	198	198	0	0	0	0	697	697	1790
Total	178	0	178	0	45	45	0	0	0	0	133	133	356
#177													
Base	0	-351	-351	-351	0	-351	-129	0	-129	0	-129	-129	-960
Added	0	410	410	410	0	410	116	0	116	0	116	116	1052
Total	0	59	59	59	0	59	-13	0	-13	0	-13	-13	92
#178													
Base	-266	0	-266	0	-370	-370	-129	0	-129	0	-25	-25	-790
Added	332	0	332	0	406	406	116	0	116	0	41	41	895
Total	66	0	66	0	36	36	-13	0	-13	0	16	16	105
#182													
Base	-370	0	-370	-475	-370	-845	0	-475	-475	0	0	0	-1690
Added	406	0	406	506	406	912	0	506	506	0	0	0	1824
Total	36	0	36	31	36	67	0	31	31	0	0	0	134
#201													
Base	0	0	0	0	0	0	-932	0	-932	0	-932	-932	-1864
Added	0	0	0	0	0	0	1046	0	1046	0	1046	1046	2093
Total	0	0	0	0	0	0	114	0	114	0	114	114	229

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#204													
Base	0	-580	-580	-932	0	-932	0	0	0	0	-352	-352	-1864
Added	0	655	655	1046	0	1046	0	0	0	0	392	392	2093
Total	0	75	75	114	0	114	0	0	0	0	40	40	229
#207													
Base	-714	0	-714	0	-1110	-1110	0	0	0	-396	0	-396	-222
Added	835	0	835	0	1266	1266	0	0	0	432	0	432	2533
Total	121	0	121	0	156	156	0	0	0	36	0	36	313
#214													
Base	0	-546	-546	0	0	0	0	-564	-564	-1110	0	-1110	-2220
Added	0	570	570	0	0	0	0	697	697	1266	0	1266	2533
Total	0	24	24	0	0	0	0	133	133	156	0	156	313
#217													
Base	0	-45	-45	-45	0	-45	-25	0	-25	0	-25	-25	-140
Added	0	26	26	26	0	26	41	0	41	0	41	41	134
Total	0	-19	-19	-19	0	-19	16	0	16	0	16	16	-6
#218													
Base	-21	0	-21	0	-42	-42	-25	0	-25	0	-4	-4	-92
Added	9	0	9	0	46	46	41	0	41	0	4	4	101
Total	-12	0	-12	0	4	4	16	0	16	0	-0	-0	9
#219													
Base	-43	0	-43	0	-43	-43	0	-20	-20	-20	0	-20	-126
Added	46	0	46	0	46	46	0	20	20	20	0	20	133
Total	3	0	3	0	3	3	0	0	0	0	0	0	7
#220													
Base	0	-45	-45	-79	0	-79	0	-54	-54	-20	0	-20	-198
Added	0	26	26	80	0	80	0	75	75	20	0	20	201
Total	0	-19	-19	1	0	1	0	21	21	0	0	0	3
#225													
Base	0	0	0	0	-20	-20	0	-396	-396	-416	0	-416	-832
Added	0	0	0	0	20	20	0	432	432	452	0	452	904
Total	0	0	0	0	0	0	0	36	36	36	0	36	72
#226													
Base	0	0	0	-4	0	-4	-352	0	-352	0	-356	-356	-712
Added	0	0	0	4	0	4	392	0	392	0	395	395	791
Total	0	0	0	-0	0	-0	40	0	40	0	39	39	79

Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#244													
Base	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	-288	-312	-600	-359	-333	-692	-45	-47	-92	-1384

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 3 Maritime St./ Burma St.	B	6.3	0.089	B	8.5	0.267	+ 2.127 D/V
# 4 Maritime St./ 14th St.	C	15.0	0.161	C	20.5	0.807	+ 5.511 D/V
# 5 Maritime St./ 7th St. Extensio	B	12.7	0.071	C	19.0	0.926	+ 6.292 D/V
# 6 7th St./ 7th St. Extension	B	11.8	0.000	C	15.7	0.819	+ 3.884 D/V
# 8 Adeline St./ 3rd St.	B	8.7	0.064	F	82.2	0.673	+73.447 D/V
# 9 7th/Middle Harbor Rd	C	15.8	0.000	C	16.7	0.643	+ 0.833 D/V
# 10 New Harbor/Mid Harbor Rd		0.0	0.000	D	25.1	0.888	+25.103 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.0	0.242	C	16.6	0.525	+ 4.626 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	18.3	0.236	C	24.3	0.838	+ 6.070 D/V
# 14 Union St./ 5th St./ I-880 Nort	C	16.4	0.104	C	17.6	0.395	+ 1.212 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	13.0	0.366	C	21.3	0.565	+ 8.317 D/V
# 16 7th St./ I-880 SB Ramps	A	0.1	0.020	A	1.4	0.414	+ 1.319 D/V
# 17 14th St./ I-880 Frontage Rd.	A	2.8	0.000	C	3.0	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	19.9	0.237	C	21.7	0.456	+ 1.890 D/V

Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.267
Loss Time (sec): 8 (Y+R = 4 sec) — Average Delay (sec/veh): 8.5
Optimal Cycle: 58 — Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	5	78	0	0	287	0	0	0	5	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	78	0	0	287	0	0	0	5	0	0	0
Added Vol:	0	253	0	0	387	178	107	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	331	0	0	674	178	107	0	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	331	0	0	674	178	107	0	5	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	331	0	0	674	178	107	0	5	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	348	0	0	708	187	107	0	5	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.97	0.97	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.58	0.42	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3800	0	1900	2916	770	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.00	0.00	0.24	0.24	0.06	0.00	0.00	0.00	0.00	0.00
Crit Moves:	****				****			****				
Green/Cycle:	0.10	0.48	0.00	0.00	0.62	0.62	0.20	0.00	0.20	0.00	0.00	0.00
Volume/Cap:	0.03	0.19	0.00	0.00	0.39	0.39	0.30	0.00	0.02	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	26.2	9.6	0.0	0.0	6.2	6.2	22.1	0.0	20.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.2	9.6	0.0	0.0	6.2	6.2	22.1	0.0	20.7	0.0	0.0	0.0
Queue:	0	6	0	0	10	3	3	0	0	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.807
Loss Time (sec): 8 (Y+R = 4 sec) — Average Delay (sec/veh): 20.5
Optimal Cycle: 67 — Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	0	91	39	103	261	0	0	0	0	22	0	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	91	39	103	261	0	0	0	0	22	0	87
Added Vol:	404	171	0	0	281	106	82	0	382	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	404	262	39	103	542	106	82	0	382	22	0	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	404	262	39	103	542	106	82	0	382	22	0	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	404	262	39	103	542	106	82	0	382	22	0	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	404	275	41	103	569	111	82	0	382	22	0	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.98	0.95	0.98	0.98	0.73	1.00	0.73	0.57	1.00	0.85
Lanes:	1.00	1.74	0.26	1.00	1.67	0.33	0.18	0.00	0.82	1.00	0.00	1.00
Final Sat.:	1805	3241	483	1805	3116	608	244	0	1137	1083	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.08	0.08	0.06	0.18	0.18	0.34	0.00	0.34	0.02	0.00	0.05
Crit Moves:	****				****		****					
Green/Cycle:	0.28	0.34	0.34	0.17	0.23	0.23	0.42	0.00	0.69	0.42	0.00	0.42
Volume/Cap:	0.81	0.25	0.25	0.34	0.81	0.81	0.81	0.00	0.48	0.05	0.00	0.13
Level Of Service Module:												
Delay/Veh:	28.3	15.6	15.6	24.0	27.7	27.7	22.4	0.0	4.9	11.2	0.0	11.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.3	15.6	15.6	24.0	27.7	27.7	22.4	0.0	4.9	11.2	0.0	11.6
Queue:	12	6	1	3	16	4	3	0	5	0	0	1

Table J.7-9 (Continued)

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D-AM.CMD                 Tue Nov 5, 1996 13:07:19                 Page 8-1
-------------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                       Reduced Harbor Fill Alternative
                             AM Peak Hour
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #5 Maritime St./ 7th St. Extension
*******************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.926
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      19.0
Optimal Cycle:      116              Level Of Service:                 C
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include            Ovl              Ovl            Include
Min. Green:   10   20     0     0   20    20   10    0    20    0    0     0
Lanes:        2  0  2  0  0    0  0  2  0  1   2  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     159    0     0     0    0   334    69    0    37     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  159    0     0     0    0   334    69    0    37     0    0     0
Added Vol:    947  335     0     0  384   279   240    0   868     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut: 1106  335     0     0  384   613   309    0   905     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  1106  335     0     0  384   613   309    0   905     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1106  335     0     0  384   613   309    0   905     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.03 1.05  1.00  1.00 1.05  1.00  1.03 1.00  1.00  1.00 1.00  1.00
Final Vol.:  1139  352     0     0  403   613   318    0   905     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  1.00  1.00 1.00  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       2.00 2.00  0.00  0.00 2.00  1.00  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  3610 3800     0     0 3800  1615  3610    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.32 0.09  0.00  0.00 0.11  0.38  0.09 0.00  0.56  0.00 0.00  0.00
Crit Moves:  ****                        ****              ****
Green/Cycle: 0.35 0.65  0.00  0.00 0.31  0.57  0.27 0.00  0.61  0.00 0.00  0.00
Volume/Cap:  0.91 0.14  0.00  0.00 0.35  0.66  0.33 0.00  0.91  0.00 0.00  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   27.7  4.3   0.0   0.0 17.5  10.7  19.0  0.0  19.9   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  27.7  4.3   0.0   0.0 17.5  10.7  19.0  0.0  19.9   0.0  0.0   0.0
Queue:         34    4     0     0    9    12     7    0    25     0    0     0
*******************************************************************************

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D-AM.CMD                 Tue Nov 5, 1996 13:07:19                 Page 9-1
-------------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                       Reduced Harbor Fill Alternative
                             AM Peak Hour
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #6 7th St./ 7th St. Extension
*******************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.819
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      15.7
Optimal Cycle:       70              Level Of Service:                 C
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include            Ovl
Min. Green:    0    0     0    10    0    20   10   20    20    0   20    20
Lanes:        0  0  0  0  0    2  0  0  0  1   2  0  2  0  0    0  0  1  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0     0     0    0     0     0    0    54
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0     0     0    0     0     0    0    54
Added Vol:      0    0     0   620    0   632   577  303     0     0  375   705
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   620    0   632   577  303     0     0  375   759
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   620    0   632   577  303     0     0  375   759
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   620    0   632   577  303     0     0  375   759
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.03 1.00  1.00  1.03 1.05  1.00  1.00 1.00  1.05
Final Vol.:     0    0     0   638    0   632   594  318     0     0  375   797
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.95 1.00  0.85  0.95 1.00  1.00  1.00 1.00  0.85
Lanes:       0.00 0.00  0.00  2.00 0.00  1.00  2.00 2.00  0.00  0.00 1.00  2.00
Final Sat.:     0    0     0  3610    0  1615  3610 3800     0     0 1900  3230
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.18 0.00  0.39  0.16 0.08  0.00  0.00 0.20  0.25
Crit Moves:                              ****  ****                   ****
Green/Cycle: 0.00 0.00  0.00  0.48 0.00  0.48  0.20 0.44  0.00  0.00 0.24  0.72
Volume/Cap:  0.00 0.00  0.00  0.37 0.00  0.82  0.82 0.19  0.00  0.00 0.82  0.34
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    0.0  0.0   0.0  10.8  0.0  19.3  29.8 11.0   0.0   0.0 25.9   3.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.8  0.0  19.3  29.8 11.0   0.0   0.0 25.9   3.4
Queue:          0    0     0    11    0    16    17    5     0     0   11     8
*******************************************************************************

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Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.673
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 82.2
Optimal Cycle: 92 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	793	0	0	1048	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	793	31	26	1048	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	793	31	26	1048	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	793	31	26	1048	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.05
Final Vol.:	8	832	33	27	1100	27	8	6	29	53	62	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.85	0.94	0.94	0.94
Lanes:	0.02	1.91	0.07	0.05	1.90	0.05	0.57	0.43	1.00	0.61	0.71	0.68
Final Sat.:	34	3585	142	89	3622	89	1053	790	1615	1089	1273	1212
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.30	0.30	0.30	0.01	0.01	0.02	0.05	0.05	0.05
Crit Moves:			****		****			****			****	
Green/Cycle:	0.21	0.21	0.21	0.27	0.27	0.27	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.12	1.12	1.12	1.12	1.12	1.12	0.04	0.04	0.09	0.24	0.24	0.24
Level Of Service Module:												
Delay/Veh:	91.7	91.7	91.7	86.3	86.3	86.3	20.8	20.8	21.1	21.8	21.8	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	91.7	91.7	91.7	86.3	86.3	86.3	20.8	20.8	21.1	21.8	21.8	21.8
Queue:	1	42	3	3	54	3	0	0	1	1	1	1

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/Middle Harbor Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.643
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.7
Optimal Cycle: 58 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0	0 1	0 0	0	0 0	0 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	1
Added Vol:	17	0	368	0	0	0	0	513	3	399	609	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	0	368	0	0	0	0	513	3	399	609	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	0	368	0	0	0	0	513	3	399	609	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	0	368	0	0	0	0	513	3	399	609	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	17	0	368	0	0	0	0	538	4	399	639	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.99	0.01	1.00	1.99	0.01
Final Sat.:	1805	0	1615	0	0	0	0	3772	28	1805	3794	6
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.23	0.00	0.00	0.00	0.00	0.14	0.14	0.22	0.17	0.17
Crit Moves:			****					****		****		
Green/Cycle:	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.22	0.22	0.34	0.57	0.57
Volume/Cap:	0.03	0.00	0.64	0.00	0.00	0.00	0.00	0.64	0.64	0.64	0.30	0.30
Level Of Service Module:												
Delay/Veh:	13.6	0.0	19.2	0.0	0.0	0.0	0.0	24.0	24.0	19.5	7.4	7.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.6	0.0	19.2	0.0	0.0	0.0	0.0	24.0	24.0	19.5	7.4	7.4
Queue:	0	0	9	0	0	0	0	14	0	10	9	0

Table J.7-9 (Continued)

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D-AM.CMD              Tue Nov 5, 1996 13:07:19              Page 12-1
------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                      Reduced Harbor Fill Alternative
                              AM Peak Hour
------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #10 New Harbor/Mid Harbor Rd
************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.888
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):     25.1
Optimal Cycle:       94              Level Of Service:                 D
************************************************************************
Approach:     North Bound     South Bound      East Bound      West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected       Protected       Protected       Protected
Rights:           Ovl            Include         Include         Include
Min. Green:  10    0    20    0    0     0    0   20    20   10   20     0
Lanes:       1  0  0  0  1   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    0    0     0    0    0     0    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0    0    0     0    0    0     0    0    0     0
Added Vol:    368    0   512    0    0     0    0    3   399  660   17     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  368    0   512    0    0     0    0    3   399  660   17     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   368    0   512    0    0     0    0    3   399  660   17     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  368    0   512    0    0     0    0    3   399  660   17     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.05  1.00
Final Vol.:   368    0   512    0    0     0    0    3   399  660   18     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 1.00  0.85 1.00 1.00  1.00 1.00 1.00  0.85 0.95 1.00  1.00
Lanes:       1.00 0.00  1.00 0.00 0.00  0.00 0.00 1.00  1.00 1.00 2.00  0.00
Final Sat.:  1805    0  1615    0    0     0    0 1900  1615 1805 3800     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.00  0.32 0.00 0.00  0.00 0.00 0.00  0.25 0.37 0.00  0.00
Crit Moves:  ****                                       **** ****
Green/Cycle: 0.23 0.00  0.64 0.00 0.00  0.00 0.00 0.28  0.28 0.41 0.69  0.00
Volume/Cap:  0.89 0.00  0.49 0.00 0.00  0.00 0.00 0.01  0.89 0.89 0.01  0.00
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   38.3  0.0   6.4  0.0  0.0   0.0  0.0 16.8  35.6 26.6  3.1   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  38.3  0.0   6.4  0.0  0.0   0.0  0.0 16.8  35.6 26.6  3.1   0.0
Queue:         12    0     8    0    0     0    0    0    13   19    0     0
************************************************************************

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D-AM.CMD              Tue Nov 5, 1996 13:07:19              Page 13-1
------------------------------------------------------------------------
                      FISCO/Port Vision 2000 EIS/EIR
                      Reduced Harbor Fill Alternative
                              AM Peak Hour
------------------------------------------------------------------------
                   Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
************************************************************************
Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps
************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.525
Loss Time (sec):     10 (Y+R =  4 sec) Average Delay (sec/veh):     16.6
Optimal Cycle:       70              Level Of Service:                 C
************************************************************************
Approach:     North Bound     South Bound      East Bound      West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected       Protected       Protected       Protected
Rights:         Include         Include         Include         Include
Min. Green:  10   20    20   10   20    20   10   20    20   10   20    20
Lanes:       2  0  0  1  0   1  0  0  1  0   1  0  1  1  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   33     0   16   28    47   48  394   438    0  300     9
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0   33     0   16   28    47   48  394   438    0  300     9
Added Vol:    297    0    63    0    0     0    0    0   484   81    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  297   33    63   16   28    47   48  394   922   81  300     9
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   297   33    63   16   28    47   48  394   922   81  300     9
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  297   33    63   16   28    47   48  394   922   81  300     9
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.03 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.05 1.00 1.05  1.05
Final Vol.:   306   33    63   16   28    47   48  394   968   81  315     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.90  0.90 0.95 0.91  0.91 0.95 1.00  0.85 0.95 1.00  1.00
Lanes:       2.00 0.34  0.66 1.00 0.37  0.63 1.00 1.00  2.00 1.00 1.94  0.06
Final Sat.:  3610  588  1122 1805  645  1084 1805 1900  3230 1805 3694   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.06  0.06 0.01 0.04  0.04 0.03 0.21  0.30 0.04 0.09  0.09
Crit Moves:  ****                 ****                  **** ****
Green/Cycle: 0.13 0.22  0.22 0.11 0.20  0.20 0.19 0.47  0.47 0.10 0.38  0.38
Volume/Cap:  0.64 0.25  0.25 0.08 0.22  0.22 0.14 0.44  0.64 0.45 0.23  0.23
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   28.6 20.8  20.8 25.8 21.7  21.7 21.8 11.6  13.5 28.6 13.7  13.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  28.6 20.8  20.8 25.8 21.7  21.7 21.8 11.6  13.5 28.6 13.7  13.7
Queue:          8    1     1    0    1     1    1    7    21    2    6     0
************************************************************************

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Table J.7-9 (Continued)


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---------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                     Reduced Harbor Fill Alternative
                              AM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp
***************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.838
Loss Time (sec):     12 (Y+R =  4 sec) Average Delay (sec/veh):     24.3
Optimal Cycle:       87              Level Of Service:                  C
***************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:            Ovl             Include          Include          Include
Min. Green:    10   20    20    10   20    20    10   10    20    10   20    20
Lanes:         1  0  1  1  0    1  0  1  1  0    1  1  0  1  0    1  0  0  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0    72  109   165   256   51     0     0  169   364
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0    72  109   165   256   51     0     0  169   364
Added Vol:     198  153   442     0  209     0     0    0   270   570    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   198  153   442    72  318   165   256   51   270   570  169   364
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.50
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    198  153   442    72  318   165   256   51   270   570  169   182
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   198  153   442    72  318   165   256   51   270   570  169   182
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.05  1.05  1.10 1.10  1.10  1.00 1.05  1.05
Final Vol.:    198  153   442    72  333   173   282   56   297   570  177   191
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 1.00  0.85  0.95 0.95  0.95  0.91 0.91  0.91  0.95 0.92  0.92
Lanes:        1.00 1.00  1.00  1.00 1.32  0.68  1.67 0.33  1.00  1.00 0.96  1.04
Final Sat.:   1805 1900  1615  1805 2376  1234  2890  574  1732  1805 1682  1815
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.11 0.08  0.27  0.04 0.14  0.14  0.10 0.10  0.17  0.32 0.11  0.11
Crit Moves:   ****                  ****                    ****  ****
Green/Cycle:  0.12 0.22  0.58  0.10 0.20  0.20  0.20 0.20  0.20  0.36 0.36  0.36
Volume/Cap:   0.89 0.36  0.47  0.40 0.70  0.70  0.49 0.49  0.86  0.89 0.30  0.30
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    50.0 21.2   8.1  28.0 26.2  26.2  23.1 23.1  31.9  29.5 15.0  15.0
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   50.0 21.2   8.1  28.0 26.2  26.2  23.1 23.1  31.9  29.5 15.0  15.0
Queue:           7    4     7     2    9     5     7    1    10    17    4     4
***************************************************************************
```



```
---------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                     Reduced Harbor Fill Alternative
                              AM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
           1994 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #14 Union St./ 5th St./ I-880 North Ramps
***************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.395
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):     17.6
Optimal Cycle:       71              Level Of Service:                  C
***************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0   20    20     0   20    20    10   20    20    10   20    20
Lanes:         0  0  1  1  1    0  0  1  1  0    0  1  0  1  0    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  175    45     0  154    31    24   43    13   205   31   115
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  175    45     0  154    31    24   43    13   205   31   115
Added Vol:       0    0   270     0    0     0     0    0     0   198    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0  175   315     0  154    31    24   43    13   403   31   115
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  175   315     0  154    31    24   43    13   403   31   115
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:     0  175   315     0  154    31    24   43    13   403   31   115
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.10  1.10  1.00 1.05  1.05  1.05 1.05  1.05  1.00 1.00  1.00
Final Vol.:      0  193   346     0  162    33    25   45    14   403   31   115
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   1.00 0.90  0.90  1.00 0.97  0.97  0.96 0.96  0.96  0.95 1.00  0.85
Lanes:        0.00 1.07  1.93  0.00 1.66  0.34  0.60 1.07  0.33  1.00 1.00  1.00
Final Sat.:      0 1837  3293     0 3062   624  1086 1955   608  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.00 0.11  0.11  0.00 0.05  0.05  0.02 0.02  0.02  0.22 0.02  0.07
Crit Moves:        ****        ****                  ****        ****
Green/Cycle:  0.00 0.22  0.22  0.00 0.22  0.22  0.20 0.20  0.20  0.47 0.47  0.47
Volume/Cap:   0.00 0.48  0.48  0.00 0.24  0.24  0.12 0.12  0.12  0.48 0.03  0.15
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:     0.0 22.2  22.2   0.0 20.7  20.7  21.2 21.2  21.2  12.0  9.3   9.8
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:    0.0 22.2  22.2   0.0 20.7  20.7  21.2 21.2  21.2  12.0  9.3   9.8
Queue:           0    5     8     0    4     1     1    1     0     8    0     2
***************************************************************************
```

Table J.7-9 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.565
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
Optimal Cycle: 70 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	2 0 0 1 0			1 0 0 0 2			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	548	21	17	0	94	0	16	0	0	62	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	548	21	17	0	94	0	16	0	0	62	1
Added Vol:	697	0	0	0	0	365	314	4	0	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	697	548	21	17	0	459	314	20	0	0	81	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	697	548	21	17	0	459	314	20	0	0	81	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	697	548	21	17	0	459	314	20	0	0	81	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.13	1.00	1.05	1.00	1.00	1.05	1.05
Final Vol.:	718	548	21	17	0	518	314	21	0	0	85	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	0.96	0.04	1.00	0.00	2.00	1.00	2.00	0.00	0.00	1.98	0.02
Final Sat.:	3610	1812	69	1805	0	3230	1805	3800	0	0	3756	44
Capacity Analysis Module:												
Vol/Sat:	0.20	0.30	0.30	0.01	0.00	0.16	0.17	0.01	0.00	0.00	0.02	0.02
Crit Moves:		****		****			****				****	
Green/Cycle:	0.28	0.38	0.38	0.10	0.00	0.42	0.22	0.42	0.00	0.00	0.20	0.20
Volume/Cap:	0.71	0.79	0.79	0.09	0.00	0.38	0.79	0.01	0.00	0.00	0.11	0.11
Level Of Service Module:												
Delay/Veh:	22.5	22.0	22.0	26.4	0.0	13.1	31.2	11.0	0.0	0.0	21.2	21.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.5	22.0	22.0	26.4	0.0	13.1	31.2	11.0	0.0	0.0	21.2	21.2
Queue:	18	15	1	0	0	10	9	0	0	0	2	0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.414
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 1.4
Optimal Cycle: 35 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	20	20	10	20	20
Lanes:	0 0 0 0 0			0 0 0 0 0			0 0 2 0 1			2 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	65	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	65	0	0
Added Vol:	0	0	0	0	0	0	0	318	605	0	1081	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	318	605	65	1081	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	318	605	65	1081	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	318	605	65	1081	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.03	1.05	1.00
Final Vol.:	0	0	0	0	0	0	0	334	605	67	1135	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3800	1615	3610	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.37	0.02	0.30	0.00
Crit Moves:									****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.85	0.10	0.95	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.44	0.19	0.31	0.00
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	26.7	0.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	26.7	0.1	0.0
Queue:	0	0	0	0	0	0	0	2	4	2	2	0

Table J.7-9 (Continued)

```
D-AM.CMD                 Tue Nov 5, 1996 13:07:19                  Page 18-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                      Reduced Harbor Fill Alternative
                             AM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
         1994 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
*****************************************************************************
Average Delay (sec/veh):      3.0         Worst Case Level Of Service:      C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0    89   30    0     0     0    0     0   140    0     6
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0    89   30    0     0     0    0     0   140    0     6
Added Vol:      0  314     0    0  365     0     0    0     0     0    0     0
PasserByVol:    0    0     0    0    0     0     0    0     0     0    0     0
Initial Fut:    0  314    89   30  365     0     0    0     0   140    0     6
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  314    89   30  365     0     0    0     0   140    0     6
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Final Vol.:     0  314    89   30  365     0     0    0     0   140    0     6
Adjusted Volume Module:
Grade:            0%               0%               0%               0%
% Cycle/Cars:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:     1.10 1.00  1.00 1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:  xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:       0  314    89   33  365     0     0    0     0   154    0     7
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx  2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx   2.6
Critical Gp:xxxxx xxxx xxxxx  5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx   5.5
-----------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  403 xxxx xxxxx  xxxx xxxx xxxxx   753 xxxx   201
Potent Cap.: xxxx xxxx xxxxx 1042 xxxx xxxxx  xxxx xxxx xxxxx   349 xxxx  1095
Adj Cap:     xxxx xxxx xxxxx 1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.97 xxxx  1.00
Move Cap.:   xxxx xxxx xxxxx 1042 xxxx xxxxx  xxxx xxxx xxxxx   338 xxxx  1095
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx  3.6 xxxx xxxxx xxxxx xxxx xxxxx  18.1 xxxx   3.3
LOS by Move:    *    *     *    A    *     *     *    *     *     C    *     A
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *    *    *     *     *    *     *     *    *     *
ApproachDel:        0.0              0.3              0.0             17.5

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D-AM.CMD                 Tue Nov 5, 1996 13:07:19                  Page 19-1
-----------------------------------------------------------------------------
                     FISCO/Port Vision 2000 EIS/EIR
                      Reduced Harbor Fill Alternative
                             AM Peak Hour
-----------------------------------------------------------------------------
                   Level Of Service Computation Report
         1994 HCM Operations Method (Future Volume Alternative)
*****************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
*****************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):         0.456
Loss Time (sec):     11 (Y+R =  4 sec) Average Delay (sec/veh):        21.7
Optimal Cycle:       81               Level Of Service:                  C
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    10   20    20   10   20    20    10   20    20    10   20    20
Lanes:        1  0  1  1  0    1  1  0  1  0    1  0  1  1  0    1  0  1  1  1
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9    0     0  678   48     6    65  234    12     0  152   449
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9    0     0  678   48     6    65  234    12     0  152   449
Added Vol:      0  162   152    0  193     0     0   63     0   172   81     0
PasserByVol:    0    0     0    0    0     0     0    0     0     0    0     0
Initial Fut:    9  162   152  678  241     6    65  297    12   172  233   449
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9  162   152  678  241     6    65  297    12   172  233   449
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Reduced Vol:    9  162   152  678  241     6    65  297    12   172  233   449
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.05  1.05 1.05 1.00  1.00  1.00 1.05  1.05  1.00 1.10  1.10
Final Vol.:     9  170   160  712  241     6    65  312    13   172  256   494
-----------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.93  0.93 0.95 1.00  1.00  0.95 0.99  0.99  0.95 0.90  0.90
Lanes:       1.00 1.03  0.97 2.00 0.98  0.02  1.00 1.92  0.08  1.00 1.02  1.98
Final Sat.:  1805 1821  1713 3610 1854    46  1805 3612   150  1805 1751  3379
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.09  0.09 0.20 0.13  0.13  0.04 0.09  0.09  0.10 0.15  0.15
Crit Moves:       ****           ****         ****                  ****
Green/Cycle: 0.20 0.20  0.20 0.34 0.34  0.34  0.10 0.23  0.23  0.12 0.25  0.25
Volume/Cap:  0.02 0.47  0.47 0.58 0.38  0.38  0.36 0.37  0.37  0.81 0.58  0.58
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:   20.8 23.2  23.2 18.0 16.3  16.3  27.7 20.9  20.9  42.1 21.7  21.7
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.8 23.2  23.2 18.0 16.3  16.3  27.7 20.9  20.9  42.1 21.7  21.7
Queue:          0    4     4   17    5     0     2    7     0     6    6    12
*****************************************************************************

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Table J.7-10

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	New Harbor	1088.00	Employees	0.06	0.22	65	239	304	5.4
	Zone 1 Subtotal					65	239	304	5.4
3	J.I.T.	343.00	Employees	0.10	0.36	34	123	157	2.8
	Zone 3 Subtotal					34	123	157	2.8
6	Middle Harbr	516.00	Employees	0.06	0.22	31	114	145	2.6
	Zone 6 Subtotal					31	114	145	2.6
7	7th St Harbr	613.00	Employees	0.06	0.22	37	135	172	3.0
	Zone 7 Subtotal					37	135	172	3.0
8	Outer Harbor	706.00	Employees	0.06	0.21	42	148	190	3.4
	Zone 8 Subtotal					42	148	190	3.4
10	New Park	1.00	Total Trips	55.00	96.00	55	96	151	2.7
	Zone 10 Subtotal					55	96	151	2.7
11	New Harbor	1.00	Trucks Inter	229.00	274.00	229	274	503	8.9
	Zone 11 Subtotal					229	274	503	8.9
16	Middle Harbr	1.00	Trucks Inter	109.00	130.00	109	130	239	4.2
	Zone 16 Subtotal					109	130	239	4.2
17	7th St Harbr	1.00	Trucks Inter	129.00	155.00	129	155	284	5.0
	Zone 17 Subtotal					129	155	284	5.0
18	Outer Harbor	1.00	Trucks Inter	148.00	178.00	148	178	326	5.8
	Zone 18 Subtotal					148	178	326	5.8
21	New Harbor	1.00	Truck External	407.00	488.00	407	488	895	15.8
	Zone 21 Subtotal					407	488	895	15.8
23	J.I.T.	1.00	Truck External	353.00	423.00	353	423	776	13.7
	Zone 23 Subtotal					353	423	776	13.7
26	Middle Harbr	1.00	Truck External	193.00	232.00	193	232	425	7.5
	Zone 26 Subtotal					193	232	425	7.5
27	7th St Harbr	1.00	Truck External	229.00	275.00	229	275	504	8.9
	Zone 27 Subtotal					229	275	504	8.9
28	Outer Harbor	1.00	Truck External	264.00	316.00	264	316	580	10.3

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					264	316	580	10.3
TOTAL						2325	3326	5651	100.0

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

Zone	To Gates 3	4	5	11	12	13	14	15	16
1	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
3	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
6	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
7	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
8	0.0	0.0	0.0	5.0	17.0	23.0	11.0	30.0	14.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
23	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
26	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
27	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0
28	0.0	0.0	0.0	2.0	20.0	9.0	20.0	32.0	17.0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Turning Movement Report
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#3 Maritime St./ Burma St.													
Base	5	590	0	0	109	0	0	0	50	0	0	0	754
Added	0	355	0	0	210	90	158	0	0	0	0	0	813
Total	5	945	0	0	319	90	158	0	50	0	0	0	1567
#4 Maritime St./ 14th St.													
Base	0	414	28	105	132	0	0	0	0	92	0	290	1061
Added	298	258	0	0	144	66	98	0	387	0	0	0	1250
Total	298	672	28	105	276	66	98	0	387	92	0	290	2311
#5 Maritime St./ 7th St. Extension													
Base	36	0	0	0	0	75	223	0	74	0	0	0	408
Added	768	327	0	0	304	226	229	0	823	0	0	0	2677
Total	804	327	0	0	304	301	452	0	897	0	0	0	3085
#6 7th St./ 7th St. Extension													
Base	0	0	0	31	0	0	0	0	0	0	0	0	31
Added	0	0	0	674	0	453	606	423	0	0	281	489	2926
Total	0	0	0	705	0	453	606	423	0	0	281	489	2957
#7													
Base	95	0	229	0	0	0	0	215	131	94	88	0	852
Added	0	0	0	0	0	0	0	633	0	0	416	0	1050
Total	95	0	229	0	0	0	0	848	131	94	504	0	1902
#8 Adeline St./ 3rd St.													
Base	36	0	122	43	0	15	30	14	13	89	39	78	479
Added	0	979	0	0	640	0	0	0	0	0	0	0	1620
Total	36	979	122	43	640	15	30	14	13	89	39	78	2099
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	1	1
Added	4	0	383	0	0	0	0	646	15	289	446	0	1782
Total	4	0	383	0	0	0	0	646	15	289	446	1	1783
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	383	0	618	0	0	0	0	15	289	412	4	0	1721
Total	383	0	618	0	0	0	0	15	289	412	4	0	1721
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	0	23	0	9	23	23	20	454	210	0	624	13	1399
Added	439	0	74	0	0	0	0	0	249	51	0	0	813
Total	439	23	74	9	23	23	20	454	459	51	624	13	2212

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	241	0	69	138	157	0	0	202	616	1423
Added	251	194	534	0	124	0	0	0	161	355	0	0	1620
Total	251	194	534	241	124	69	138	157	161	355	202	616	3043
#14 Union St./ 5th St./ I-880 North Ramps													
Base	0	194	281	0	144	30	31	97	18	32	31	34	892
Added	0	0	161	0	0	0	0	0	0	251	0	0	412
Total	0	194	442	0	144	30	31	97	18	283	31	34	1304
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	0	197	3	2	0	205	0	108	0	0	53	1	569
Added	478	0	0	0	0	288	417	17	0	0	5	0	1204
Total	478	197	3	2	0	493	417	125	0	0	58	1	1773
#16 7th St./ I-880 SB Ramps													
Base	0	0	0	0	0	0	0	0	7	378	0	0	385
Added	0	0	0	0	0	0	0	434	663	0	770	0	1867
Total	0	0	0	0	0	0	0	434	670	378	770	0	2252
#17 14th St./ I-880 Frontage Rd.													
Base	0	62	130	4	0	0	0	0	0	115	0	7	318
Added	0	417	0	0	288	0	0	0	0	0	0	0	705
Total	0	479	130	4	288	0	0	0	0	115	0	7	1023
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	75	72	0	759	0	6	86	277	3	0	456	330	2064
Added	0	183	234	0	128	0	0	74	0	159	51	0	830
Total	75	255	234	759	128	6	86	351	3	159	507	330	2894
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	615	0	0	0	0	546	0	737	387	0	2285
Total	0	0	615	0	0	0	0	546	0	737	387	0	2285
#138													
Base	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-168	0	0	-123	-24	-20	0	0	0	0	0	-335
#158													
Base	0	-259	-163	0	0	0	0	0	0	0	0	0	-422
Added	0	331	155	0	0	0	0	0	0	0	0	0	486
Total	0	72	-8	0	0	0	0	0	0	0	0	0	64

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#159													
Base	-259	0	0	0	0	0	0	0	0	0	-105	0	-364
Added	331	0	0	0	0	0	0	0	0	0	95	0	426
Total	72	0	0	0	0	0	0	0	0	0	-10	0	62
#160													
Base	0	0	0	0	0	0	0	0	0	-105	-259	0	-364
Added	0	0	0	0	0	0	0	0	0	95	331	0	426
Total	0	0	0	0	0	0	0	0	0	-10	72	0	62
#161													
Base	0	0	0	0	-105	0	0	0	-150	0	0	0	-255
Added	0	0	0	0	95	0	0	0	178	0	0	0	273
Total	0	0	0	0	-10	0	0	0	28	0	0	0	18
#165													
Base	0	0	0	0	-126	0	0	0	-534	0	0	0	-660
Added	0	0	0	0	161	0	0	0	663	0	0	0	823
Total	0	0	0	0	35	0	0	0	129	0	0	0	163
#170													
Base	0	-205	-391	0	0	0	0	0	0	0	0	0	-596
Added	0	251	478	0	0	0	0	0	0	0	0	0	729
Total	0	46	87	0	0	0	0	0	0	0	0	0	133
#177													
Base	0	0	0	0	-214	0	0	-163	0	0	0	0	-377
Added	0	0	0	0	265	0	0	155	0	0	0	0	420
Total	0	0	0	0	51	0	0	-8	0	0	0	0	43
#178													
Base	0	-323	0	0	0	0	-116	-47	0	0	0	0	-486
Added	0	387	0	0	0	0	88	67	0	0	0	0	542
Total	0	64	0	0	0	0	-28	20	0	0	0	0	56
#182													
Base	0	-439	0	0	0	-297	0	0	0	0	0	0	-736
Added	0	476	0	0	0	325	0	0	0	0	0	0	801
Total	0	37	0	0	0	28	0	0	0	0	0	0	65
#201													
Base	0	0	0	0	0	0	0	-1043	0	0	0	0	-104
Added	0	0	0	0	0	0	0	1197	0	0	0	0	1197
Total	0	0	0	0	0	0	0	154	0	0	0	0	154

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#204													
Base	0	0	0	-375	-668	0	0	0	0	0	0	0	-1043
Added	0	0	0	414	783	0	0	0	0	0	0	0	1197
Total	0	0	0	39	115	0	0	0	0	0	0	0	154
#207													
Base	0	-463	0	0	0	0	0	0	0	0	0	-278	-741
Added	0	525	0	0	0	0	0	0	0	0	0	308	833
Total	0	62	0	0	0	0	0	0	0	0	0	30	92
#214													
Base	0	0	0	0	0	0	0	0	0	-350	-391	0	-741
Added	0	0	0	0	0	0	0	0	0	355	478	0	833
Total	0	0	0	0	0	0	0	0	0	5	87	0	92
#217													
Base	0	0	0	0	-19	0	0	-47	0	0	0	0	-66
Added	0	0	0	0	9	0	0	67	0	0	0	0	75
Total	0	0	0	0	-10	0	0	20	0	0	0	0	9
#218													
Base	0	-39	0	0	0	0	-31	-16	0	0	0	0	-86
Added	0	22	0	0	0	0	50	16	0	0	0	0	89
Total	0	-17	0	0	0	0	19	0	0	0	0	0	3
#219													
Base	0	-70	0	0	0	0	0	0	0	0	-5	0	-75
Added	0	73	0	0	0	0	0	0	0	0	5	0	77
Total	0	3	0	0	0	0	0	0	0	0	-0	0	2
#220													
Base	0	0	0	0	-19	-18	0	0	0	0	-5	0	-42
Added	0	0	0	0	9	31	0	0	0	0	5	0	44
Total	0	0	0	0	-10	13	0	0	0	0	-0	0	2
#225													
Base	0	0	0	0	0	0	0	0	0	0	-278	-5	-283
Added	0	0	0	0	0	0	0	0	0	0	308	5	312
Total	0	0	0	0	0	0	0	0	0	0	30	-0	29
#226													
Base	0	0	0	-16	0	0	0	-375	0	0	0	0	-391
Added	0	0	0	16	0	0	0	414	0	0	0	0	430
Total	0	0	0	0	0	0	0	39	0	0	0	0	39

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume Type	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Total Volume
#244													
Base	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	-302	-226	-44	0	0	-37	0	-609

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Link Volume Report
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#3 Maritime St./ Burma St.													
Base	595	159	754	109	590	699	50	5	55	0	0	0	1508
Added	355	210	565	300	513	813	158	90	248	0	0	0	1625
Total	950	369	1319	409	1103	1512	208	95	303	0	0	0	3133
#4 Maritime St./ 14th St.													
Base	442	224	666	237	704	941	0	0	0	382	133	515	2122
Added	556	530	1086	210	355	565	484	364	848	0	0	0	2499
Total	998	754	1752	447	1059	1506	484	364	848	382	133	515	4621
#5 Maritime St./ 7th St. Extension													
Base	36	74	110	75	223	298	297	111	408	0	0	0	816
Added	1094	1127	2221	530	556	1086	1052	994	2046	0	0	0	5353
Total	1130	1201	2331	605	779	1384	1349	1105	2454	0	0	0	6169
#6 7th St./ 7th St. Extension													
Base	0	0	0	31	0	31	0	0	0	0	31	31	62
Added	0	0	0	1127	1094	2221	1029	735	1763	770	1097	1867	5851
Total	0	0	0	1158	1094	2252	1029	735	1763	770	1128	1898	5913
#7													
Base	324	225	549	0	0	0	346	183	529	182	444	626	1704
Added	0	0	0	0	0	0	633	416	1050	416	633	1050	2099
Total	324	225	549	0	0	0	979	599	1579	598	1077	1676	3803
#8 Adeline St./ 3rd St.													
Base	158	102	260	58	108	166	57	90	147	206	179	385	958
Added	979	640	1620	640	979	1620	0	0	0	0	0	0	3239
Total	1137	742	1880	698	1087	1786	57	90	147	206	179	385	4197
#9 7th/Middle Harbor Rd													
Base	0	0	0	0	1	1	0	0	0	1	0	1	2
Added	387	304	690	0	0	0	661	450	1111	735	1029	1763	3565
Total	387	304	690	0	1	1	661	450	1111	736	1029	1764	3567
#10 New Harbor/Mid Harbor Rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	1001	701	1702	0	0	0	304	387	690	416	633	1050	3442
Total	1001	701	1702	0	0	0	304	387	690	416	633	1050	3442
#12 Maritime St./ W.Grand Ave./ I-880 Ramps													
Base	23	233	256	55	56	111	684	647	1331	637	463	1100	2798
Added	513	300	813	0	0	0	249	439	687	51	74	125	1625
Total	536	533	1069	55	56	111	933	1086	2018	688	537	1225	4423

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#13 Adeline St./ 5th St./ I-880 SB Ramp													
Base	0	0	0	310	754	1064	295	271	566	818	398	1216	2846
Added	979	640	1620	124	194	318	161	251	412	355	534	889	3239
Total	979	640	1620	434	948	1382	456	522	978	1173	932	2105	6085
#14 Union St./ 5th St./ I-880 North Ramps													
Base	475	194	669	174	259	433	146	61	207	97	378	475	1784
Added	161	251	412	0	0	0	0	0	0	251	161	412	824
Total	636	445	1081	174	259	433	146	61	207	348	539	887	2608
#15 7th St./ I-880 NB Ramps / Frontage Rd.													
Base	200	0	200	207	198	405	108	258	366	54	113	167	1138
Added	478	0	478	288	417	705	434	770	1204	5	17	22	2408
Total	678	0	678	495	615	1110	542	1028	1570	59	130	189	3546
#16 7th St./ I-880 SB Ramps													
Base	0	385	385	0	0	0	7	0	7	378	0	378	770
Added	0	663	663	0	0	0	1097	770	1867	770	434	1204	3734
Total	0	1048	1048	0	0	0	1104	770	1874	1148	434	1582	4504
#17 14th St./ I-880 Frontage Rd.													
Base	192	115	307	4	69	73	0	0	0	122	134	256	636
Added	417	288	705	288	417	705	0	0	0	0	0	0	1409
Total	609	403	1012	292	486	778	0	0	0	122	134	256	2045
#18 W.Grand Ave./ I-880 Frontage Rd.													
Base	147	3	150	765	488	1253	366	537	903	786	1036	1822	4128
Added	417	288	705	128	183	312	74	51	125	210	308	518	1660
Total	564	291	855	893	671	1565	440	588	1028	996	1344	2340	5788
#134													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	615	737	1352	0	0	0	546	387	933	1124	1161	2285	4570
Total	615	737	1352	0	0	0	546	387	933	1124	1161	2285	4570
#138													
Base	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-168	-123	-291	-147	-188	-335	-20	-24	-44	0	0	0	-670
#158													
Base	-422	0	-422	0	-259	-259	0	0	0	0	-163	-163	-844
Added	486	0	486	0	331	331	0	0	0	0	155	155	971
Total	64	0	64	0	72	72	0	0	0	0	-8	-8	127

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#159													
Base	-259	0	-259	0	0	0	0	-364	-364	-105	0	-105	-728
Added	331	0	331	0	0	0	0	426	426	95	0	95	852
Total	72	0	72	0	0	0	0	62	62	-10	0	-10	124
#160													
Base	0	-105	-105	0	0	0	0	-259	-259	-364	0	-364	-728
Added	0	95	95	0	0	0	0	331	331	426	0	426	852
Total	0	-10	-10	0	0	0	0	72	72	62	0	62	124
#161													
Base	0	-255	-255	-105	0	-105	-150	0	-150	0	0	0	-510
Added	0	273	273	95	0	95	178	0	178	0	0	0	547
Total	0	18	18	-10	0	-10	28	0	28	0	0	0	37
#165													
Base	0	-660	-660	-126	0	-126	-534	0	-534	0	0	0	-1320
Added	0	823	823	161	0	161	663	0	663	0	0	0	1647
Total	0	163	163	35	0	35	129	0	129	0	0	0	327
#170													
Base	-596	0	-596	0	-205	-205	0	0	0	0	-391	-391	-1192
Added	729	0	729	0	251	251	0	0	0	0	478	478	1457
Total	133	0	133	0	46	46	0	0	0	0	87	87	265
#177													
Base	0	-214	-214	-214	0	-214	-163	0	-163	0	-163	-163	-754
Added	0	265	265	265	0	265	155	0	155	0	155	155	840
Total	0	51	51	51	0	51	-8	0	-8	0	-8	-8	86
#178													
Base	-323	0	-323	0	-439	-439	-163	0	-163	0	-47	-47	-972
Added	387	0	387	0	476	476	155	0	155	0	67	67	1085
Total	64	0	64	0	37	37	-8	0	-8	0	20	20	113
#182													
Base	-439	0	-439	-297	-439	-736	0	-297	-297	0	0	0	-1472
Added	476	0	476	325	476	801	0	325	325	0	0	0	1601
Total	37	0	37	28	37	65	0	28	28	0	0	0	129
#201													
Base	0	0	0	0	0	0	-1043	0	-1043	0	-1043	-1043	-208
Added	0	0	0	0	0	0	1197	0	1197	0	1197	1197	2393
Total	0	0	0	0	0	0	154	0	154	0	154	154	307

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#204													
Base	0	-668	-668	-1043	0	-1043	0	0	0	0	-375	-375	-2086
Added	0	783	783	1197	0	1197	0	0	0	0	414	414	2393
Total	0	115	115	154	0	154	0	0	0	0	39	39	307
#207													
Base	-463	0	-463	0	-741	-741	0	0	0	-278	0	-278	-1482
Added	525	0	525	0	833	833	0	0	0	308	0	308	1666
Total	62	0	62	0	92	92	0	0	0	30	0	30	184
#214													
Base	0	-350	-350	0	0	0	0	-391	-391	-741	0	-741	-1482
Added	0	355	355	0	0	0	0	478	478	833	0	833	1666
Total	0	5	5	0	0	0	0	87	87	92	0	92	184
#217													
Base	0	-19	-19	-19	0	-19	-47	0	-47	0	-47	-47	-132
Added	0	9	9	9	0	9	67	0	67	0	67	67	151
Total	0	-10	-10	-10	0	-10	20	0	20	0	20	20	19
#218													
Base	-39	0	-39	0	-70	-70	-47	0	-47	0	-16	-16	-172
Added	22	0	22	0	73	73	67	0	67	0	16	16	178
Total	-17	0	-17	0	3	3	20	0	20	0	0	0	6
#219													
Base	-70	0	-70	0	-70	-70	0	-5	-5	-5	0	-5	-150
Added	73	0	73	0	73	73	0	5	5	5	0	5	155
Total	3	0	3	0	3	3	0	-0	-0	-0	0	-0	5
#220													
Base	0	-19	-19	-37	0	-37	0	-23	-23	-5	0	-5	-84
Added	0	9	9	39	0	39	0	35	35	5	0	5	88
Total	0	-10	-10	2	0	2	0	12	12	-0	0	-0	4
#225													
Base	0	0	0	0	-5	-5	0	-278	-278	-283	0	-283	-566
Added	0	0	0	0	5	5	0	308	308	312	0	312	624
Total	0	0	0	0	-0	-0	0	30	30	29	0	29	58
#226													
Base	0	0	0	-16	0	-16	-375	0	-375	0	-391	-391	-782
Added	0	0	0	16	0	16	414	0	414	0	430	430	861
Total	0	0	0	0	0	0	39	0	39	0	39	39	79

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#244													
Base	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	-302	-226	-528	-270	-339	-609	-37	-44	-81	-1218

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 3 Maritime St./ Burma St.	B	7.2	0.211	B	9.4	0.318	+ 2.270 D/V
# 4 Maritime St./ 14th St.	C	15.9	0.392	C	19.8	0.760	+ 3.876 D/V
# 5 Maritime St./ 7th St. Extensio	B	5.8	0.080	B	14.0	0.695	+ 8.229 D/V
# 6 7th St./ 7th St. Extension	C	20.9	0.000	B	14.7	0.670	-6.129 D/V
# 8 Adeline St./ 3rd St.	C	20.4	0.084	F	72.1	0.668	+51.744 D/V
# 9 7th/Middle Harbor Rd	C	15.8	0.000	C	17.2	0.630	+ 1.404 D/V
# 10 New Harbor/Mid Harbor Rd		0.0	0.000	C	16.3	0.673	+16.281 D/V
# 12 Maritime St./ W.Grand Ave./ I-	B	12.4	0.237	C	18.8	0.410	+ 6.398 D/V
# 13 Adeline St./ 5th St./ I-880 SB	C	17.6	0.328	D	30.8	0.510	+13.115 D/V
# 14 Union St./ 5th St./ I-880 Nort	B	12.5	0.178	C	16.8	0.227	+ 4.359 D/V
# 15 7th St./ I-880 NB Ramps / Fron	B	11.5	0.135	C	18.7	0.426	+ 7.286 D/V
# 16 7th St./ I-880 SB Ramps	A	2.6	0.113	B	5.6	0.550	+ 3.004 D/V
# 17 14th St./ I-880 Frontage Rd.	A	1.9	0.000	C	2.3	0.000	+ 0.000 V/C
# 18 W.Grand Ave./ I-880 Frontage R	C	21.1	0.505	C	22.8	0.658	+ 1.696 D/V

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.318
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	9.4
Optimal Cycle:	58	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	0	0
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 0 1 0			0 0 0 0 0		
Volume Module:												
Base Vol:	5	590	0	0	109	0	0	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	590	0	0	109	0	0	0	50	0	0	0
Added Vol:	0	355	0	0	210	90	158	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	945	0	0	319	90	158	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	945	0	0	319	90	158	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	945	0	0	319	90	158	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	993	0	0	335	95	158	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.97	0.97	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.56	0.44	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3800	0	1900	2872	814	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.12	0.12	0.09	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green/Cycle:	0.24	0.62	0.00	0.00	0.48	0.48	0.20	0.00	0.20	0.00	0.00	0.00
Volume/Cap:	0.01	0.42	0.00	0.00	0.24	0.24	0.44	0.00	0.15	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	18.7	6.4	0.0	0.0	9.9	9.9	23.2	0.0	21.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.7	6.4	0.0	0.0	9.9	9.9	23.2	0.0	21.4	0.0	0.0	0.0
Queue:	0	14	0	0	5	2	4	0	1	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.760
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	19.8
Optimal Cycle:	58	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	1 0 1 1 0			1 0 1 1 0			0 0 1! 0 0			1 0 0 1 0		
Volume Module:												
Base Vol:	0	414	28	105	132	0	0	0	0	92	0	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	414	28	105	132	0	0	0	0	92	0	290
Added Vol:	298	258	0	0	144	66	98	0	387	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	298	672	28	105	276	66	98	0	387	92	0	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	298	672	28	105	276	66	98	0	387	92	0	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	298	672	28	105	276	66	98	0	387	92	0	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	298	705	29	105	289	69	98	0	387	92	0	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.99	0.99	0.95	0.97	0.97	0.58	1.00	0.58	0.40	1.00	0.85
Lanes:	1.00	1.92	0.08	1.00	1.61	0.39	0.20	0.00	0.80	1.00	0.00	1.00
Final Sat.:	1805	3613	149	1805	2976	710	224	0	886	760	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.17	0.20	0.20	0.06	0.10	0.10	0.44	0.00	0.44	0.12	0.00	0.18
Crit Moves:	****				****		****					
Green/Cycle:	0.20	0.27	0.27	0.13	0.20	0.20	0.52	0.00	0.72	0.52	0.00	0.52
Volume/Cap:	0.84	0.74	0.74	0.44	0.49	0.49	0.84	0.00	0.61	0.23	0.00	0.34
Level Of Service Module:												
Delay/Veh:	35.7	23.7	23.7	26.7	23.3	23.3	20.3	0.0	5.5	8.4	0.0	9.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.7	23.7	23.7	26.7	23.3	23.3	20.3	0.0	5.5	8.4	0.0	9.1
Queue:	9	19	1	3	7	2	3	0	6	1	0	5

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.695
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	14.0
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	10	20	0	0	20	20	10	0	20	0	0	0
Lanes:	2 0 2 0 0			0 0 2 0 1			2 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	36	0	0	0	0	75	223	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	0	0	0	75	223	0	74	0	0	0
Added Vol:	768	327	0	0	304	226	229	0	823	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	804	327	0	0	304	301	452	0	897	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	804	327	0	0	304	301	452	0	897	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	804	327	0	0	304	301	452	0	897	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.05	1.00	1.00	1.05	1.00	1.03	1.00	1.00	1.00	1.00	1.00
Final Vol.:	828	343	0	0	319	301	466	0	897	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3610	3800	0	0	3800	1615	3610	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.23	0.09	0.00	0.00	0.08	0.19	0.13	0.00	0.56	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.30	0.50	0.00	0.00	0.20	0.62	0.42	0.00	0.72	0.00	0.00	0.00
Volume/Cap:	0.77	0.18	0.00	0.00	0.42	0.30	0.31	0.00	0.77	0.00	0.00	0.00
Level Of Service Module:												
Delay/Veh:	23.2	9.0	0.0	0.0	22.8	5.7	12.4	0.0	8.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	9.0	0.0	0.0	22.8	5.7	12.4	0.0	8.0	0.0	0.0	0.0
Queue:	22	5	0	0	8	4	9	0	17	0	0	0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec):	100	Critical Vol./Cap. (X):	0.670
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	14.7
Optimal Cycle:	58	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	10	0	20	10	20	20	0	20	20
Lanes:	0 0 0 0 0			2 0 0 0 1			2 0 2 0 0			0 0 1 1 1		
Volume Module:												
Base Vol:	0	0	0	31	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	674	0	453	606	423	0	0	281	489
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	705	0	453	606	423	0	0	281	489
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	705	0	453	606	423	0	0	281	489
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	705	0	453	606	423	0	0	281	489
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.03	1.05	1.00	1.00	1.10	1.10
Final Vol.:	0	0	0	726	0	453	624	444	0	0	310	537
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	1.10	1.90
Final Sat.:	0	0	0	3610	0	1615	3610	3800	0	0	1898	3289
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.20	0.00	0.28	0.17	0.12	0.00	0.00	0.16	0.16
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.42	0.00	0.42	0.26	0.50	0.00	0.00	0.24	0.66
Volume/Cap:	0.00	0.00	0.00	0.48	0.00	0.67	0.67	0.23	0.00	0.00	0.67	0.25
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	13.9	0.0	17.0	22.8	9.1	0.0	0.0	23.1	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.9	0.0	17.0	22.8	9.1	0.0	0.0	23.1	4.4
Queue:	0	0	0	15	0	11	16	7	0	0	8	6

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.668
Loss Time (sec): 12 (Y+R = 4 sec) — Average Delay (sec/veh): 72.1
Optimal Cycle: 92 — Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	979	0	0	640	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	979	122	43	640	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	979	122	43	640	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	979	122	43	640	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	1028	128	45	672	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.06	1.73	0.21	0.12	1.84	0.04	1.00	0.52	0.48	0.84	0.39	0.77
Final Sat.:	119	3206	399	233	3484	83	1805	916	851	1512	663	1325
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.32	0.19	0.19	0.19	0.02	0.02	0.02	0.06	0.06	0.06
Crit Moves:	****				****			****			****	
Green/Cycle:	0.28	0.28	0.28	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	1.15	1.15	1.15	0.96	0.96	0.96	0.08	0.08	0.08	0.29	0.29	0.29
Level Of Service Module:												
Delay/Veh:	100.7	101	100.7	43.5	43.5	43.5	21.0	21.0	21.0	22.0	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	100.7	101	100.7	43.5	43.5	43.5	21.0	21.0	21.0	22.0	22.0	22.0
Queue:	4	56	9	3	23	1	1	0	0	2	1	2

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/Middle Harbor Rd

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.630
Loss Time (sec): 8 (Y+R = 4 sec) — Average Delay (sec/veh): 17.2
Optimal Cycle: 58 — Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	20	0	0	0	0	20	20	10	20	0
Lanes:	1 0	0	0 1	0 0	0	0 0	0 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	1
Added Vol:	4	0	383	0	0	0	0	646	15	289	446	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	0	383	0	0	0	0	646	15	289	446	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	0	383	0	0	0	0	646	15	289	446	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	0	383	0	0	0	0	646	15	289	446	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	4	0	383	0	0	0	0	678	16	289	468	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.95	0.05	1.00	1.99	0.01
Final Sat.:	1805	0	1615	0	0	0	0	3712	88	1805	3792	8
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.18	0.18	0.16	0.12	0.12
Crit Moves:			****					****		****		
Green/Cycle:	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.29	0.29	0.25	0.54	0.54
Volume/Cap:	0.01	0.00	0.63	0.00	0.00	0.00	0.00	0.63	0.63	0.63	0.23	0.23
Level Of Service Module:												
Delay/Veh:	12.6	0.0	18.0	0.0	0.0	0.0	0.0	20.8	20.8	23.4	7.7	7.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.6	0.0	18.0	0.0	0.0	0.0	0.0	20.8	20.8	23.4	7.7	7.7
Queue:	0	0	9	0	0	0	0	17	1	7	7	0

Table J.7-10 (Continued)

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FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #10 New Harbor/Mid Harbor Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.673
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	16.3
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Control:	Protected	Protected	Protected	Protected
Rights:	Ovl	Include	Include	Include
Min. Green:	10 0 20	0 0 0	0 20 20	10 20 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 1 0	1 0 2 0 0

Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	383	0	618	0	0	0	0	15	289	412	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	383	0	618	0	0	0	0	15	289	412	4	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	383	0	618	0	0	0	0	15	289	412	4	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	383	0	618	0	0	0	0	15	289	412	4	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00
Final Vol.:	383	0	618	0	0	0	0	15	289	412	4	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	1900	1615	1805	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.21	0.00	0.38	0.00	0.00	0.00	0.00	0.01	0.18	0.23	0.00	0.00
Crit Moves:	****								****	****		
Green/Cycle:	0.32	0.00	0.65	0.00	0.00	0.00	0.00	0.27	0.27	0.34	0.60	0.00
Volume/Cap:	0.67	0.00	0.58	0.00	0.00	0.00	0.00	0.03	0.67	0.67	0.00	0.00
Level Of Service Module:												
Delay/Veh:	21.4	0.0	6.9	0.0	0.0	0.0	0.0	17.6	23.9	20.3	5.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.4	0.0	6.9	0.0	0.0	0.0	0.0	17.6	23.9	20.3	5.0	0.0
Queue:	10	0	10	0	0	0	0	0	8	10	0	0

D-PM.CMD Tue Nov 5, 1996 10:50:39 Page 13-1

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.410
Loss Time (sec):	10 (Y+R = 4 sec)	Average Delay (sec/veh):	18.8
Optimal Cycle:	70	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	10 20 20	10 20 20	10 20 20	10 20 20
Lanes:	2 0 0 1 0	1 0 0 1 0	1 0 1 1 1	1 0 1 1 0

Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	23	0	9	23	23	20	454	210	0	624	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	23	0	9	23	23	20	454	210	0	624	13
Added Vol:	439	0	74	0	0	0	0	0	249	51	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	439	23	74	9	23	23	20	454	459	51	624	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	439	23	74	9	23	23	20	454	459	51	624	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	439	23	74	9	23	23	20	454	459	51	624	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.05	1.05
Final Vol.:	452	23	74	9	23	23	20	499	505	51	655	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	0.93	0.93	0.95	0.93	0.93	0.95	1.00	1.00
Lanes:	2.00	0.24	0.76	1.00	0.50	0.50	1.00	1.49	1.51	1.00	1.96	0.04
Final Sat.:	3610	401	1290	1805	884	884	1805	2635	2666	1805	3720	80
Capacity Analysis Module:												
Vol/Sat:	0.13	0.06	0.06	0.00	0.03	0.03	0.01	0.19	0.19	0.03	0.18	0.18
Crit Moves:	****				****			****		****		
Green/Cycle:	0.24	0.29	0.29	0.15	0.20	0.20	0.15	0.36	0.36	0.10	0.31	0.31
Volume/Cap:	0.52	0.20	0.20	0.03	0.13	0.13	0.07	0.52	0.52	0.28	0.57	0.57
Level Of Service Module:												
Delay/Veh:	21.9	17.2	17.2	23.7	21.2	21.2	23.4	16.5	16.5	27.2	19.3	19.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.9	17.2	17.2	23.7	21.2	21.2	23.4	16.5	16.5	27.2	19.3	19.3
Queue:	11	0	2	0	1	1	0	11	11	1	16	0

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec):	100	Critical Vol./Cap. (X):	0.510
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	30.8
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	10	20	10	20	20
Lanes:	1 0 1 1 0			1 0 1 1 0			1 1 0 1 0			1 0 0 1 1		
Volume Module:												
Base Vol:	0	0	0	241	0	69	138	157	0	0	202	616
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	241	0	69	138	157	0	0	202	616
Added Vol:	251	194	534	0	124	0	0	0	161	355	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	251	194	534	241	124	69	138	157	161	355	202	616
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	251	194	534	241	124	69	138	157	161	355	202	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	194	534	241	124	69	138	157	161	355	202	308
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.05	1.10	1.10	1.10	1.00	1.05	1.05
Final Vol.:	251	194	534	241	130	72	152	173	177	355	212	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.95	0.95	0.94	0.94	0.94	0.95	0.91	0.91
Lanes:	1.00	1.00	1.00	1.00	1.29	0.71	1.00	1.00	1.00	1.00	0.79	1.21
Final Sat.:	1805	1900	1615	1805	2323	1287	1787	1787	1787	1805	1370	2088
Capacity Analysis Module:												
Vol/Sat:	0.14	0.10	0.33	0.13	0.06	0.06	0.09	0.10	0.10	0.20	0.15	0.15
Crit Moves:	****				****				****		****	
Green/Cycle:	0.20	0.28	0.57	0.11	0.20	0.20	0.20	0.20	0.20	0.28	0.28	0.28
Volume/Cap:	0.70	0.36	0.58	1.16	0.28	0.28	0.43	0.48	0.50	0.70	0.55	0.55
Level Of Service Module:												
Delay/Veh:	28.1	18.5	9.6	147.1	22.0	22.0	22.8	23.2	23.3	23.7	20.3	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.1	18.5	9.6	147.1	22.0	22.0	22.8	23.2	23.3	23.7	20.3	20.3
Queue:	7	4	10	16	3	2	4	4	4	9	5	8

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.227
Loss Time (sec):	11 (Y+R = 4 sec)	Average Delay (sec/veh):	16.8
Optimal Cycle:	71	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	20	20	0	20	20	10	20	20	10	20	20
Lanes:	0 0 1 1 1			0 0 1 1 0			0 1 0 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	0	194	281	0	144	30	31	97	18	32	31	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	194	281	0	144	30	31	97	18	32	31	34
Added Vol:	0	0	161	0	0	0	0	0	0	251	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	194	442	0	144	30	31	97	18	283	31	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	194	442	0	144	30	31	97	18	283	31	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	194	442	0	144	30	31	97	18	283	31	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.05	1.00	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00
Final Vol.:	0	194	464	0	151	32	33	102	19	283	31	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	1.00	0.97	0.97	0.97	0.97	0.97	0.95	1.00	0.85
Lanes:	0.00	1.00	2.00	0.00	1.65	0.35	0.43	1.32	0.25	1.00	1.00	1.00
Final Sat.:	0	1900	3230	0	3041	645	790	2442	455	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.14	0.00	0.05	0.05	0.04	0.04	0.04	0.16	0.02	0.02
Crit Moves:			****	****				****			****	
Green/Cycle:	0.00	0.33	0.33	0.00	0.33	0.33	0.20	0.20	0.20	0.36	0.36	0.36
Volume/Cap:	0.00	0.31	0.44	0.00	0.15	0.15	0.21	0.21	0.21	0.44	0.05	0.06
Level Of Service Module:												
Delay/Veh:	0.0	16.2	17.1	0.0	15.3	15.3	21.6	21.6	21.6	16.0	13.4	13.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.2	17.1	0.0	15.3	15.3	21.6	21.6	21.6	16.0	13.4	13.5
Queue:	0	4	10	0	3	1	1	2	0	6	1	1

Table J.7-10 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.426
Loss Time (sec):	10 (Y+R = 4 sec)	Average Delay (sec/veh):	18.7
Optimal Cycle:	70	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	0	20	20
Lanes:	2 0 0 1 0			1 0 0 0 2			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	197	3	2	0	205	0	108	0	0	53	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	197	3	2	0	205	0	108	0	0	53	1
Added Vol:	478	0	0	0	0	288	417	17	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	478	197	3	2	0	493	417	125	0	0	58	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	478	197	3	2	0	493	417	125	0	0	58	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	478	197	3	2	0	493	417	125	0	0	58	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.03	1.00	1.00	1.00	1.00	1.13	1.00	1.05	1.00	1.00	1.05	1.05
Final Vol.:	492	197	3	2	0	557	417	131	0	0	61	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	0.98	0.02	1.00	0.00	2.00	1.00	2.00	0.00	0.00	1.97	0.03
Final Sat.:	3610	1872	29	1805	0	3230	1805	3800	0	0	3739	61
Capacity Analysis Module:												
Vol/Sat:	0.14	0.11	0.11	0.00	0.00	0.17	0.23	0.03	0.00	0.00	0.02	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.19	0.26	0.26	0.13	0.00	0.51	0.31	0.51	0.00	0.00	0.20	0.20
Volume/Cap:	0.73	0.41	0.41	0.01	0.00	0.34	0.73	0.07	0.00	0.00	0.08	0.08
Level Of Service Module:												
Delay/Veh:	27.7	20.3	20.3	24.6	0.0	9.2	23.1	7.9	0.0	0.0	21.0	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.7	20.3	20.3	24.6	0.0	9.2	23.1	7.9	0.0	0.0	21.0	21.0
Queue:	14	5	0	0	0	9	11	2	0	0	1	0

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.550
Loss Time (sec):	5 (Y+R = 4 sec)	Average Delay (sec/veh):	5.6
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	20	20	10	20	20
Lanes:	0 0 0 0 0			0 0 0 0 0			0 0 2 0 1			2 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	7	378	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	7	378	0	0
Added Vol:	0	0	0	0	0	0	0	434	663	0	770	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	434	670	378	770	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	434	670	378	770	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	434	670	378	770	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.03	1.05	1.00
Final Vol.:	0	0	0	0	0	0	0	456	670	389	808	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3800	1615	3610	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.41	0.11	0.21	0.00
Crit Moves:									****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.75	0.20	0.95	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.55	0.55	0.22	0.00
Level Of Service Module:												
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	3.8	24.1	0.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	3.8	24.1	0.1	0.0
Queue:	0	0	0	0	0	0	0	4	8	10	1	0

Table J.7-10 (Continued)

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D-PM.CMD                Tue Nov 5, 1996 10:50:39                  Page 18-1
----------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                           Reduced Harbor Fill Alternative
                                 PM Peak Hour
----------------------------------------------------------------------------
                      Level Of Service Computation Report
          1994 HCM Unsignalized Method (Future Volume Alternative)
****************************************************************************
Intersection #17 14th St./ I-880 Frontage Rd.
****************************************************************************
Average Delay (sec/veh):      2.3          Worst Case Level Of Service:     C
****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include         Include          Include
Lanes:        0  0  1  1  0    1  0  2  0  0    0  0  0  0  0    1  0  0  0  1
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   62  130     4    0    0     0    0    0   115    0    7
Growth Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:     0   62  130     4    0    0     0    0    0   115    0    7
Added Vol:       0  417    0     0  288    0     0    0    0     0    0    0
PasserByVol:     0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:     0  479  130     4  288    0     0    0    0   115    0    7
User Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:      1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:      0  479  130     4  288    0     0    0    0   115    0    7
Reduct Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:      0  479  130     4  288    0     0    0    0   115    0    7
Adjusted Volume Module:
Grade:             0%               0%               0%               0%
% Cycle/Cars:    xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:    xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:      1.10 1.00 1.00  1.10 1.00 1.00  1.10 1.10 1.10  1.10 1.10 1.10
Cycl/Car PCE:    xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:    xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:        0  479  130     4  288    0     0    0    0   127    0    8
Critical Gap Module:
MoveUp Time:xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx   3.4 xxxx  2.6
Critical Gp:xxxxx xxxx xxxxx   5.5 xxxx xxxxx xxxxx xxxx xxxxx   7.0 xxxx  5.5
-----------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   609 xxxx xxxxx  xxxx xxxx xxxxx   836 xxxx  305
Potent Cap.: xxxx xxxx xxxxx   807 xxxx xxxxx  xxxx xxxx xxxxx   309 xxxx  971
Adj Cap:     xxxx xxxx xxxxx  1.00 xxxx xxxxx  xxxx xxxx xxxxx  0.99 xxxx 1.00
Move Cap.:   xxxx xxxx xxxxx   807 xxxx xxxxx  xxxx xxxx xxxxx   308 xxxx  971
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   4.5 xxxx xxxxx xxxxx xxxx xxxxx  18.6 xxxx  3.7
LOS by Move:    *    *    *     A    *    *     *    *    *     C    *    A
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    *    *     *    *    *     *    *    *
ApproachDel:       0.0              0.1              0.0             17.8

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D-PM.CMD                Tue Nov 5, 1996 10:50:39                  Page 19-1
----------------------------------------------------------------------------
                        FISCO/Port Vision 2000 EIS/EIR
                           Reduced Harbor Fill Alternative
                                 PM Peak Hour
----------------------------------------------------------------------------
                      Level Of Service Computation Report
          1994 HCM Operations Method (Future Volume Alternative)
****************************************************************************
Intersection #18 W.Grand Ave./ I-880 Frontage Rd.
****************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.658
Loss Time (sec):      11 (Y+R =  4 sec) Average Delay (sec/veh):       22.8
Optimal Cycle:        81               Level Of Service:                 C
****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-----------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     10   20   20    10   20   20    10   20   20    10   20   20
Lanes:        1  0  1  1  0    1  1  0  1  0    1  0  1  1  0    1  0  1  1  1
-----------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       75   72    0   759    0    6    86  277    3     0  456  330
Growth Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    75   72    0   759    0    6    86  277    3     0  456  330
Added Vol:       0  183  234     0  128    0     0   74    0   159   51    0
PasserByVol:     0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    75  255  234   759  128    6    86  351    3   159  507  330
User Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:      1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     75  255  234   759  128    6    86  351    3   159  507  330
Reduct Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    75  255  234   759  128    6    86  351    3   159  507  330
PCE Adj:      1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:      1.00 1.05 1.05  1.05 1.00 1.00  1.00 1.05 1.05  1.00 1.10 1.10
Final Vol.:     75  268  245   797  128    6    86  369    3   159  557  363
-----------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:   0.95 0.93 0.93  0.95 0.99 0.99  0.95 1.00 1.00  0.95 0.94 0.94
Lanes:        1.00 1.04 0.96  2.00 0.96 0.04  1.00 1.98 0.02  1.00 1.82 1.18
Final Sat.:   1805 1846 1688  3610 1797   84  1805 3769   31  1805 3244 2114
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.04 0.15 0.15  0.22 0.07 0.07  0.05 0.10 0.10  0.09 0.17 0.17
Crit Moves:        ****       ****            ****                 ****
Green/Cycle:  0.21 0.21 0.21  0.32 0.32 0.32  0.10 0.23 0.23  0.12 0.25 0.25
Volume/Cap:   0.19 0.68 0.68  0.68 0.22 0.22  0.48 0.42 0.42  0.75 0.68 0.68
-----------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Delay/Veh:    20.9 25.1 25.1  19.9 15.9 15.9  29.0 21.2 21.2  36.9 22.8 22.8
User DelAdj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   20.9 25.1 25.1  19.9 15.9 15.9  29.0 21.2 21.2  36.9 22.8 22.8
Queue:           2    7    7    20    3    0     2    9    0     5   14   10
****************************************************************************

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Table J.7-11

A-AM-MIT.CMD Tue Nov 5, 1996 13:36:24 Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative - Mitigated
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.675
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	28.9
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	778	0	0	1020	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	778	31	26	1020	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	778	31	26	1020	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	778	31	26	1020	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	8	817	33	27	1071	27	8	6	29	50	59	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.88	0.88	0.95	0.93	0.93
Lanes:	0.02	1.90	0.08	0.05	1.90	0.05	1.00	0.17	0.83	1.00	0.51	0.49
Final Sat.:	35	3582	145	91	3618	91	1805	287	1385	1805	907	860
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.30	0.30	0.30	0.00	0.02	0.02	0.03	0.07	0.07
Crit Moves:			****		****		****				****	
Green/Cycle:	0.25	0.25	0.25	0.33	0.33	0.33	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.90	0.90	0.90	0.90	0.90	0.90	0.04	0.10	0.10	0.28	0.33	0.33
Level Of Service Module:												
Delay/Veh:	31.9	31.9	31.9	27.6	27.6	27.6	26.3	21.1	21.1	27.1	22.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.9	31.9	27.6	27.6	27.6	26.3	21.1	21.1	27.1	22.3	22.3
Queue:	1	25	2	2	31	2	0	0	1	1	1	1

A-PM-MIT.CMD Tue Nov 5, 1996 13:37:22 Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Maximum Rail Alternative - Mitigated
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.669
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	26.4
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	955	0	0	628	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	955	122	43	628	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	955	122	43	628	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	955	122	43	628	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	1003	128	45	659	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.06	1.72	0.22	0.12	1.84	0.04	1.00	0.52	0.48	1.00	0.33	0.67
Final Sat.:	121	3195	408	238	3478	84	1805	916	851	1805	570	1140
Capacity Analysis Module:												
Vol/Sat:	0.31	0.31	0.31	0.19	0.19	0.19	0.02	0.02	0.02	0.05	0.07	0.07
Crit Moves:			****		****		****				****	
Green/Cycle:	0.36	0.36	0.36	0.22	0.22	0.22	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.87	0.87	0.87	0.87	0.87	0.87	0.17	0.08	0.08	0.49	0.34	0.34
Level Of Service Module:												
Delay/Veh:	23.7	23.7	23.7	31.2	31.2	31.2	26.6	21.0	21.0	29.3	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	23.7	23.7	31.2	31.2	31.2	26.6	21.0	21.0	29.3	22.4	22.4
Queue:	2	28	5	2	20	1	1	0	0	2	1	2

Table J.7-11 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative - Mitigated
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.633
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 25.3
Optimal Cycle: 82 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	700	0	0	966	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	700	31	26	966	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	700	31	26	966	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	700	31	26	966	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	8	735	33	27	1014	27	8	6	29	50	59	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.88	0.88	0.95	0.93	0.93
Lanes:	0.02	1.89	0.09	0.05	1.90	0.05	1.00	0.17	0.83	1.00	0.51	0.49
Final Sat.:	39	3563	160	96	3608	96	1805	287	1385	1805	907	860
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.28	0.28	0.28	0.00	0.02	0.02	0.03	0.07	0.07
Crit Moves:		****			****		****				****	
Green/Cycle:	0.25	0.25	0.25	0.33	0.33	0.33	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.84	0.84	0.84	0.84	0.84	0.84	0.04	0.10	0.10	0.28	0.33	0.33
Level Of Service Module:												
Delay/Veh:	28.1	28.1	28.1	23.6	23.6	23.6	26.3	21.1	21.1	27.1	22.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.1	28.1	28.1	23.6	23.6	23.6	26.3	21.1	21.1	27.1	22.3	22.3
Queue:	1	21	2	1	28	1	0	0	1	1	1	1

FISCO/Port Vision 2000 EIS/EIR
Minimum Marine/Minimum Rail Alternative - Mitigated
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.630
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 24.0
Optimal Cycle: 82 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	891	0	0	570	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	891	122	43	570	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	891	122	43	570	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	891	122	43	570	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	936	128	45	599	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.07	1.70	0.23	0.14	1.81	0.05	1.00	0.52	0.48	1.00	0.33	0.67
Final Sat.:	128	3163	433	259	3449	92	1805	916	851	1805	570	1140
Capacity Analysis Module:												
Vol/Sat:	0.30	0.30	0.30	0.17	0.17	0.17	0.02	0.02	0.02	0.05	0.07	0.07
Crit Moves:		****			****		****				****	
Green/Cycle:	0.37	0.37	0.37	0.21	0.21	0.21	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.81	0.81	0.81	0.81	0.81	0.81	0.17	0.08	0.08	0.49	0.34	0.34
Level Of Service Module:												
Delay/Veh:	21.1	21.1	21.1	28.4	28.4	28.4	26.6	21.0	21.0	29.3	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	21.1	21.1	28.4	28.4	28.4	26.6	21.0	21.0	29.3	22.4	22.4
Queue:	2	25	4	2	17	1	1	0	0	2	1	2

Table J.7-11 (Continued)

C-AM-MIT.CMD   Tue Nov 5, 1996 14:05:58   Page 1-1

FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative - Mitigated
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100		Critical Vol./Cap. (X):	0.720
Loss Time (sec):	12	(Y+R = 4 sec)	Average Delay (sec/veh):	36.6
Optimal Cycle:	82		Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	828	0	0	1113	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	828	31	26	1113	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	828	31	26	1113	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	828	31	26	1113	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	8	870	33	27	1169	27	8	6	29	50	59	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.88	0.88	0.95	0.93	0.93
Lanes:	0.02	1.91	0.07	0.04	1.92	0.04	1.00	0.17	0.83	1.00	0.51	0.49
Final Sat.:	33	3593	136	84	3632	84	1805	287	1385	1805	907	860
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.24	0.32	0.32	0.32	0.00	0.02	0.02	0.03	0.07	0.07
Crit Moves:			****	****			****				****	
Green/Cycle:	0.25	0.25	0.25	0.33	0.33	0.33	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.97	0.97	0.97	0.97	0.97	0.97	0.04	0.10	0.10	0.28	0.33	0.33
Level Of Service Module:												
Delay/Veh:	41.1	41.1	41.1	35.6	35.6	35.6	26.3	21.1	21.1	27.1	22.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.1	41.1	41.1	35.6	35.6	35.6	26.3	21.1	21.1	27.1	22.3	22.3
Queue:	1	30	2	2	38	2	0	0	1	1	1	1

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FISCO/Port Vision 2000 EIS/EIR
Maximum Marine/Minimum Rail Alternative - Mitigated
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100		Critical Vol./Cap. (X):	0.706
Loss Time (sec):	12	(Y+R = 4 sec)	Average Delay (sec/veh):	30.2
Optimal Cycle:	82		Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	1041	0	0	670	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	1041	122	43	670	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	1041	122	43	670	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	1041	122	43	670	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	1093	128	45	704	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.06	1.74	0.20	0.12	1.84	0.04	1.00	0.52	0.48	1.00	0.33	0.67
Final Sat.:	114	3266	382	224	3497	79	1805	916	851	1805	570	1140
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.33	0.20	0.20	0.20	0.02	0.02	0.02	0.05	0.07	0.07
Crit Moves:			****		****		****				****	
Green/Cycle:	0.36	0.36	0.36	0.22	0.22	0.22	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.92	0.92	0.92	0.92	0.92	0.92	0.17	0.08	0.08	0.49	0.34	0.34
Level Of Service Module:												
Delay/Veh:	27.6	27.6	27.6	36.2	36.2	36.2	26.6	21.0	21.0	29.3	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.6	27.6	27.6	36.2	36.2	36.2	26.6	21.0	21.0	29.3	22.4	22.4
Queue:	2	33	5	2	23	1	1	0	0	2	1	2

Table J.7-11 (Continued)

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative - Mitigated
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.688
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	30.5
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	8	0	31	26	0	26	8	6	29	50	59	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	31	26	0	26	8	6	29	50	59	56
Added Vol:	0	793	0	0	1048	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	793	31	26	1048	26	8	6	29	50	59	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	793	31	26	1048	26	8	6	29	50	59	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	793	31	26	1048	26	8	6	29	50	59	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	8	832	33	27	1100	27	8	6	29	50	59	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.88	0.88	0.95	0.93	0.93
Lanes:	0.02	1.91	0.07	0.05	1.90	0.05	1.00	0.17	0.83	1.00	0.51	0.49
Final Sat.:	34	3585	142	89	3622	89	1805	287	1385	1805	907	860
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.30	0.30	0.30	0.00	0.02	0.02	0.03	0.07	0.07
Crit Moves:			****		****		****				****	
Green/Cycle:	0.25	0.25	0.25	0.33	0.33	0.33	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.92	0.92	0.92	0.92	0.92	0.92	0.04	0.10	0.10	0.28	0.33	0.33
Level Of Service Module:												
Delay/Veh:	33.9	33.9	33.9	29.2	29.2	29.2	26.3	21.1	21.1	27.1	22.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.9	33.9	33.9	29.2	29.2	29.2	26.3	21.1	21.1	27.1	22.3	22.3
Queue:	1	26	2	2	33	2	0	0	1	1	1	1

FISCO/Port Vision 2000 EIS/EIR
Reduced Harbor Fill Alternative - Mitigated
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.680
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	27.3
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	20	20	10	20	20	10	20	20	10	20	20
Lanes:	0 1	0	1 0	0 1	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	36	0	122	43	0	15	30	14	13	89	39	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	122	43	0	15	30	14	13	89	39	78
Added Vol:	0	979	0	0	640	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	979	122	43	640	15	30	14	13	89	39	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	979	122	43	640	15	30	14	13	89	39	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	979	122	43	640	15	30	14	13	89	39	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	1028	128	45	672	16	30	14	13	89	39	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	0.06	1.73	0.21	0.12	1.84	0.04	1.00	0.52	0.48	1.00	0.33	0.67
Final Sat.:	119	3206	399	233	3484	83	1805	916	851	1805	570	1140
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.32	0.19	0.19	0.19	0.02	0.02	0.02	0.05	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.36	0.36	0.36	0.22	0.22	0.22	0.10	0.20	0.20	0.10	0.20	0.20
Volume/Cap:	0.89	0.89	0.89	0.89	0.89	0.89	0.17	0.08	0.08	0.49	0.34	0.34
Level Of Service Module:												
Delay/Veh:	24.7	24.7	24.7	32.5	32.5	32.5	26.6	21.0	21.0	29.3	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.7	24.7	24.7	32.5	32.5	32.5	26.6	21.0	21.0	29.3	22.4	22.4
Queue:	2	29	5	2	20	1	1	0	0	2	1	2

Appendix J.8
Freeway LOS Calculations - AM and PM Peak Hour

Table J.8-1
Freeway Level of Service Calcuations - AM Peak Hour

1. I-80 at the Bay Bridge

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	C	F	0.61	1.07	5	5	6,130	10,728	0	0
Maximum Marine/Maximum Rail	C	F	0.62	1.08	5	5	6,207	10,758	77	30
Minimum Marine/Minimum Rail	C	F	0.62	1.08	5	5	6,184	10,753	54	25
Maximum Marine/Minimum Rail	C	F	0.62	1.08	5	5	6,219	10,760	89	32
Reduced Harbor Fill	C	F	0.62	1.08	5	5	6,209	10,758	79	30

2. I-80 Between I-880 & I-580

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	B	F	0.44	1.08	3	3	2,665	6,492	0	0
Maximum Marine/Maximum Rail	B	F	0.44	1.08	3	3	2,654	6,487	-11	-5
Minimum Marine/Minimum Rail	B	F	0.45	1.08	3	3	2,675	6,509	10	17
Maximum Marine/Minimum Rail	B	F	0.44	1.08	3	3	2,646	6,477	-19	-15
Reduced Harbor Fill	B	F	0.44	1.08	3	3	2,652	6,485	-13	-7

3. I-80 East of I-80/I-580 Split

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	D	F	0.86	1.09	4	4	6,877	8,714	0	0
Maximum Marine/Maximum Rail	D	F	0.86	1.09	4	4	6,913	8,743	36	29
Minimum Marine/Minimum Rail	D	F	0.86	1.09	4	4	6,914	8,754	37	40
Maximum Marine/Minimum Rail	D	F	0.86	1.09	4	4	6,915	8,752	38	38
Reduced Harbor Fill	D	F	0.86	1.09	4	4	6,913	8,745	36	31

4. I-880 Connector to I-80 East

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	C	0.40	0.59	2	2	1,610	2,379	0	0
Maximum Marine/Maximum Rail	B	C	0.42	0.61	2	2	1,674	2,434	64	55
Minimum Marine/Minimum Rail	B	C	0.41	0.60	2	2	1,646	2,417	36	38
Maximum Marine/Minimum Rail	B	C	0.42	0.61	2	2	1,679	2,446	69	67
Reduced Harbor Fill	B	C	0.42	0.61	2	2	1,676	2,438	66	59

5. I-880 Connector to I-80 West

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	A	A	0.33	0.20	2	2	1,300	810	0	0
Maximum Marine/Maximum Rail	A	A	0.33	0.22	2	2	1,318	881	18	71
Minimum Marine/Minimum Rail	A	A	0.33	0.22	2	2	1,335	882	35	72
Maximum Marine/Minimum Rail	A	A	0.33	0.22	2	2	1,313	884	13	74
Reduced Harbor Fill	A	A	0.33	0.22	2	2	1,317	882	17	72

6. I-880 North of 7th St.

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	B	0.40	0.38	3	3	2,412	2,276	0	0
Maximum Marine/Maximum Rail	B	B	0.41	0.39	3	3	2,454	2,313	42	37
Minimum Marine/Minimum Rail	B	B	0.40	0.38	3	3	2,384	2,256	-28	-20
Maximum Marine/Minimum Rail	B	B	0.39	0.37	3	3	2,351	2,220	-61	-56
Reduced Harbor Fill	B	B	0.41	0.39	3	3	2,457	2,319	45	43

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

Table J.8-1 (Continued)
Freeway Level of Service Calcuations - AM Peak Hour

7. I-880 South of 7th St.

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	C	B	0.64	0.42	3	3	3,844	2,509	0	0
Maximum Marine/Maximum Rail	C	B	0.67	0.44	3	3	4,030	2,665	186	156
Minimum Marine/Minimum Rail	C	B	0.66	0.43	3	3	3,931	2,584	87	75
Maximum Marine/Minimum Rail	C	B	0.63	0.41	3	3	3,793	2,436	-51	-73
Reduced Harbor Fill	C	B	0.67	0.44	3	3	4,022	2,661	178	152

8. I-880 North of I-980

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	C	A	0.63	0.33	3	3	3,757	1,981	0	0
Maximum Marine/Maximum Rail	C	A	0.65	0.35	3	3	3,900	2,096	143	115
Minimum Marine/Minimum Rail	C	A	0.65	0.35	3	3	3,872	2,089	115	108
Maximum Marine/Minimum Rail	C	A	0.63	0.35	3	3	3,768	2,100	11	119
Reduced Harbor Fill	C	A	0.65	0.35	3	3	3,890	2,095	133	114

9. I-880 South of I-980

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	E	C	0.93	0.66	4	4	7,447	5,258	0	0
Maximum Marine/Maximum Rail	E	C	0.95	0.67	4	4	7,598	5,373	151	115
Minimum Marine/Minimum Rail	E	C	0.95	0.67	4	4	7,585	5,366	138	108
Maximum Marine/Minimum Rail	E	C	0.95	0.67	4	4	7,621	5,377	174	119
Reduced Harbor Fill	E	C	0.95	0.67	4	4	7,603	5,372	156	114

10. I-880 North of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	F	D	1.14	0.90	4	4	9,080	7,168	0	0
Maximum Marine/Maximum Rail	F	D	1.15	0.91	4	4	9,231	7,283	151	115
Minimum Marine/Minimum Rail	F	D	1.15	0.91	4	4	9,218	7,276	138	108
Maximum Marine/Minimum Rail	F	D	1.16	0.91	4	4	9,254	7,287	174	119
Reduced Harbor Fill	F	D	1.15	0.91	4	4	9,236	7,282	156	114

11. I-880 South of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	F	F	1.17	1.27	4	4	9,395	10,136	0	0
Maximum Marine/Maximum Rail	F	F	1.19	1.28	4	4	9,512	10,211	117	75
Minimum Marine/Minimum Rail	F	F	1.19	1.28	4	4	9,494	10,205	99	69
Maximum Marine/Minimum Rail	F	F	1.19	1.28	4	4	9,528	10,214	133	78
Reduced Harbor Fill	F	F	1.19	1.28	4	4	9,516	10,211	121	75

12. I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	B	F	0.53	1.01	3	3	3,163	6,089	0	0
Maximum Marine/Maximum Rail	B	F	0.53	1.02	3	3	3,203	6,123	40	34
Minimum Marine/Minimum Rail	B	F	0.53	1.02	3	3	3,202	6,128	39	39
Maximum Marine/Minimum Rail	B	F	0.53	1.02	3	3	3,204	6,130	41	41
Reduced Harbor Fill	B	F	0.53	1.02	3	3	3,202	6,125	39	36

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

Table J.8-1 (Continued)
Freeway Level of Service Calcuations - AM Peak Hour

13. I-580 East of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	C	D	0.65	0.87	5	5	6,539	8,658	0	0
Maximum Marine/Maximum Rail	C	D	0.66	0.87	5	5	6,579	8,693	40	35
Minimum Marine/Minimum Rail	C	D	0.66	0.87	5	5	6,578	8,700	39	42
Maximum Marine/Minimum Rail	C	D	0.66	0.87	5	5	6,580	8,699	41	41
Reduced Harbor Fill	C	D	0.66	0.87	5	5	6,578	8,694	39	36

14. I-580 West of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	D	E	0.93	0.95	4	4	7,418	7,630	0	0
Maximum Marine/Maximum Rail	D	E	0.93	0.95	4	4	7,418	7,630	0	0
Minimum Marine/Minimum Rail	D	E	0.93	0.95	4	4	7,418	7,630	0	0
Maximum Marine/Minimum Rail	D	E	0.93	0.95	4	4	7,418	7,630	0	0
Reduced Harbor Fill	D	E	0.93	0.95	4	4	7,418	7,630	0	0

15. I-580 East of I-980/SH 24

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	C	F	0.60	1.09	4	4	4,783	8,698	0	0
Maximum Marine/Maximum Rail	C	F	0.60	1.09	4	4	4,783	8,698	0	0
Minimum Marine/Minimum Rail	C	F	0.60	1.09	4	4	4,783	8,698	0	0
Maximum Marine/Minimum Rail	C	F	0.60	1.09	4	4	4,783	8,698	0	0
Reduced Harbor Fill	C	F	0.60	1.09	4	4	4,783	8,698	0	0

16. I-580 West of I-980/SH 24

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	C	E	0.67	0.98	5	5	6,665	9,843	0	0
Maximum Marine/Maximum Rail	C	E	0.67	0.99	5	5	6,681	9,864	16	21
Minimum Marine/Minimum Rail	C	E	0.67	0.99	5	5	6,675	9,858	10	15
Maximum Marine/Minimum Rail	C	E	0.67	0.99	5	5	6,676	9,857	11	14
Reduced Harbor Fill	C	E	0.67	0.99	5	5	6,681	9,864	16	21

17. I-980

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB†	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	D	0.43	0.83	4	4	3,403	6,619	0	0
Maximum Marine/Maximum Rail	B	D	0.42	0.82	4	4	3,391	6,599	-12	-20
Minimum Marine/Minimum Rail	B	D	0.42	0.83	4	4	3,398	6,612	-5	-7
Maximum Marine/Minimum Rail	B	D	0.42	0.83	4	4	3,397	6,609	-6	-10
Reduced Harbor Fill	B	D	0.42	0.83	4	4	3,391	6,600	-12	-19

18. SH 24 East of I-580

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	A	F	0.30	1.01	4	4	2,436	8,090	0	0
Maximum Marine/Maximum Rail	A	F	0.31	1.01	4	4	2,448	8,091	12	1
Minimum Marine/Minimum Rail	A	F	0.31	1.01	4	4	2,444	8,095	8	5
Maximum Marine/Minimum Rail	A	F	0.31	1.01	4	4	2,450	8,093	14	3
Reduced Harbor Fill	A	F	0.31	1.01	4	4	2,449	8,091	13	1

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

Table J.8-2
Freeway Level of Service Calculations - PM Peak Hour

1. I-80 at the Bay Bridge

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	F	C	1.18	0.73	5	5	11,845	7,305	0	0
Maximum Marine/Maximum Rail	F	C	1.19	0.74	5	5	11,873	7,375	28	70
Minimum Marine/Minimum Rail	F	C	1.19	0.74	5	5	11,868	7,355	23	50
Maximum Marine/Minimum Rail	F	C	1.19	0.74	5	5	11,876	7,386	31	81
Reduced Harbor Fill	F	C	1.19	0.74	5	5	11,873	7,377	28	72

2. I-80 Between I-880 & I-580

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	C	B	0.70	0.41	3	3	4,217	2,430	0	0
Maximum Marine/Maximum Rail	C	B	0.70	0.40	3	3	4,211	2,422	-6	-8
Minimum Marine/Minimum Rail	C	B	0.71	0.41	3	3	4,233	2,439	16	9
Maximum Marine/Minimum Rail	C	B	0.70	0.40	3	3	4,202	2,416	-15	-14
Reduced Harbor Fill	C	B	0.70	0.40	3	3	4,209	2,420	-8	-10

3. I-80 East of I-80/I-580 Split

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	F	F	1.20	1.02	4	4	9,614	8,123	0	0
Maximum Marine/Maximum Rail	F	F	1.21	1.02	4	4	9,650	8,151	36	28
Minimum Marine/Minimum Rail	F	F	1.21	1.02	4	4	9,656	8,153	42	30
Maximum Marine/Minimum Rail	F	F	1.21	1.02	4	4	9,658	8,153	44	30
Reduced Harbor Fill	F	F	1.21	1.02	4	4	9,651	8,151	37	28

4. I-880 Connector to I-80 East

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	C	0.53	0.59	2	2	2,118	2,349	0	0
Maximum Marine/Maximum Rail	C	C	0.55	0.60	2	2	2,180	2,398	62	49
Minimum Marine/Minimum Rail	B	C	0.54	0.59	2	2	2,158	2,379	40	30
Maximum Marine/Minimum Rail	C	C	0.55	0.60	2	2	2,190	2,403	72	54
Reduced Harbor Fill	C	C	0.55	0.60	2	2	2,182	2,400	64	51

5. I-880 Connector to I-80 West

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	A	A	0.25	0.31	2	2	1,010	1,240	0	0
Maximum Marine/Maximum Rail	A	A	0.27	0.32	2	2	1,074	1,260	64	20
Minimum Marine/Minimum Rail	A	A	0.27	0.32	2	2	1,076	1,272	66	32
Maximum Marine/Minimum Rail	A	A	0.27	0.31	2	2	1,075	1,256	65	16
Reduced Harbor Fill	A	A	0.27	0.31	2	2	1,074	1,258	64	18

6. I-880 North of 7th St.

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	B	0.40	0.45	3	3	2,419	2,687	0	0
Maximum Marine/Maximum Rail	B	B	0.41	0.45	3	3	2,460	2,719	41	32
Minimum Marine/Minimum Rail	B	B	0.40	0.44	3	3	2,400	2,666	-19	-21
Maximum Marine/Minimum Rail	B	B	0.39	0.44	3	3	2,368	2,640	-51	-47
Reduced Harbor Fill	B	B	0.41	0.45	3	3	2,465	2,722	46	35

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

Table J.8-2 (Continued)
Freeway Level of Service Calculations - PM Peak Hour

7. I-880 South of 7th St.

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	C	0.49	0.68	3	3	2,928	4,060	0	0
Maximum Marine/Maximum Rail	B	C	0.51	0.71	3	3	3,063	4,232	135	172
Minimum Marine/Minimum Rail	B	C	0.50	0.69	3	3	2,984	4,150	56	90
Maximum Marine/Minimum Rail	B	C	0.48	0.67	3	3	2,867	4,022	-61	-38
Reduced Harbor Fill	B	C	0.51	0.70	3	3	3,061	4,223	133	163

8. I-880 North of I-980

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	B	B	0.48	0.50	3	3	2,869	3,015	0	0
Maximum Marine/Maximum Rail	B	B	0.49	0.53	3	3	2,963	3,166	94	151
Minimum Marine/Minimum Rail	B	B	0.49	0.53	3	3	2,944	3,150	75	135
Maximum Marine/Minimum Rail	B	B	0.48	0.53	3	3	2,859	3,185	-10	170
Reduced Harbor Fill	B	B	0.49	0.53	3	3	2,956	3,169	87	154

9. I-880 South of I-980

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	D	C	0.93	0.76	4	4	7,426	6,051	0	0
Maximum Marine/Maximum Rail	E	D	0.94	0.78	4	4	7,518	6,202	92	151
Minimum Marine/Minimum Rail	E	D	0.94	0.77	4	4	7,514	6,186	88	135
Maximum Marine/Minimum Rail	E	D	0.94	0.78	4	4	7,524	6,221	98	170
Reduced Harbor Fill	E	D	0.94	0.78	4	4	7,518	6,205	92	154

10. I-880 North of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	F	F	1.06	1.19	4	4	8,474	9,555	0	0
Maximum Marine/Maximum Rail	F	F	1.07	1.21	4	4	8,566	9,706	92	151
Minimum Marine/Minimum Rail	F	F	1.07	1.21	4	4	8,562	9,690	88	135
Maximum Marine/Minimum Rail	F	F	1.07	1.22	4	4	8,572	9,725	98	170
Reduced Harbor Fill	F	F	1.07	1.21	4	4	8,566	9,709	92	154

11. I-880 South of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	F	F	1.20	1.21	4	4	9,574	9,655	0	0
Maximum Marine/Maximum Rail	F	F	1.20	1.22	4	4	9,636	9,768	62	113
Minimum Marine/Minimum Rail	F	F	1.20	1.22	4	4	9,632	9,750	58	95
Maximum Marine/Minimum Rail	F	F	1.21	1.22	4	4	9,640	9,782	66	127
Reduced Harbor Fill	F	F	1.20	1.22	4	4	9,636	9,770	62	115

12. I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	E	D	0.95	0.79	3	3	5,699	4,748	0	0
Maximum Marine/Maximum Rail	E	D	0.96	0.80	3	3	5,738	4,778	39	30
Minimum Marine/Minimum Rail	E	D	0.96	0.80	3	3	5,741	4,778	42	30
Maximum Marine/Minimum Rail	E	D	0.96	0.80	3	3	5,743	4,779	44	31
Reduced Harbor Fill	E	D	0.96	0.80	3	3	5,738	4,778	39	30

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

Table J.8-2 (Continued)
Freeway Level of Service Calculations - PM Peak Hour

13. I-580 East of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	D	D	0.89	0.81	5	5	8,888	8,147	0	0
Maximum Marine/Maximum Rail	D	D	0.89	0.82	5	5	8,927	8,176	39	29
Minimum Marine/Minimum Rail	D	D	0.89	0.82	5	5	8,930	8,178	42	31
Maximum Marine/Minimum Rail	D	D	0.89	0.82	5	5	8,932	8,178	44	31
Reduced Harbor Fill	D	D	0.89	0.82	5	5	8,927	8,176	39	29

14. I-580 West of I-238

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	F	D	1.01	0.86	4	4	8,058	6,887	0	0
Maximum Marine/Maximum Rail	F	D	1.01	0.86	4	4	8,058	6,887	0	0
Minimum Marine/Minimum Rail	F	D	1.01	0.86	4	4	8,060	6,887	2	0
Maximum Marine/Minimum Rail	F	D	1.01	0.86	4	4	8,058	6,887	0	0
Reduced Harbor Fill	F	D	1.01	0.86	4	4	8,058	6,887	0	0

15. I-580 East of I-980/SH 24

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	F	C	1.20	0.73	4	4	9,602	5,825	0	0
Maximum Marine/Maximum Rail	F	C	1.20	0.73	4	4	9,602	5,825	0	0
Minimum Marine/Minimum Rail	F	C	1.20	0.73	4	4	9,604	5,825	2	0
Maximum Marine/Minimum Rail	F	C	1.20	0.73	4	4	9,602	5,825	0	0
Reduced Harbor Fill	F	C	1.20	0.73	4	4	9,602	5,825	0	0

16. I-580 West of I-980/SH 24

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB	EB	WB	EB	WB	EB	WB	EB	WB
No Project	F	C	1.09	0.73	5	5	10,851	7,322	0	0
Maximum Marine/Maximum Rail	F	C	1.09	0.73	5	5	10,871	7,334	20	12
Minimum Marine/Minimum Rail	F	C	1.09	0.73	5	5	10,865	7,330	14	8
Maximum Marine/Minimum Rail	F	C	1.09	0.73	5	5	10,864	7,330	13	8
Reduced Harbor Fill	F	C	1.09	0.73	5	5	10,871	7,334	20	12

17. I-980

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	NB†	SB	NB	SB	NB	SB	NB	SB	NB	SB
No Project	E	B	0.94	0.48	4	4	7,538	3,864	0	0
Maximum Marine/Maximum Rail	E	B	0.94	0.48	4	4	7,521	3,854	-17	-10
Minimum Marine/Minimum Rail	E	B	0.94	0.48	4	4	7,532	3,860	-6	-4
Maximum Marine/Minimum Rail	E	B	0.94	0.48	4	4	7,530	3,858	-8	-6
Reduced Harbor Fill	E	B	0.94	0.48	4	4	7,521	3,854	-17	-10

18. SH 24 East of I-580

Alternative	Level of Service		Volume/ Capacity		Number of Lanes		Traffic Volume		Change in Volume	
	EB†	WB†	EB	WB	EB	WB	EB	WB	EB	WB
No Project	F	B	1.11	0.46	4	4	8,905	3,717	0	0
Maximum Marine/Maximum Rail	F	B	1.11	0.46	4	4	8,907	3,719	2	2
Minimum Marine/Minimum Rail	F	B	1.11	0.47	4	4	8,910	3,720	5	3
Maximum Marine/Minimum Rail	F	B	1.11	0.47	4	4	8,910	3,720	5	3
Reduced Harbor Fill	F	B	1.11	0.46	4	4	8,908	3,719	3	2

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

Appendix J.9
Vehicle Delay at Railroad Crossings

Table J.9-1

FISCO/Port Vision 2000 EIS/EIR

Vehicle Delay at Railroad Crossings

Summary of Project Alternatives

Crossing Street	Gate Down Time (min./day)					Vehicular Delay (hours/day)				
		Project Alternative					Project Alternative			
	No Action	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill	No Action	Max. Marine/Max. Rail	Min. Marine/Min. Rail	Max. Marine/Min. Rail	Reduced Harbor Fill
1. Cutting Boulevard	44	56	47	58	58	16.4	23.0	18.0	23.9	23.9
2. Gilman Street	46	59	49	61	61	11.4	16.3	12.8	16.9	16.9
3. Camelia Street	46	59	49	61	61	1.2	1.7	1.3	1.8	1.8
4. Cedar Street	46	59	49	61	61	2.2	3.2	2.5	3.3	3.3
5. Virginia Street	46	59	49	61	61	1.0	1.5	1.2	1.5	1.5
6. Hearst Avenue	46	59	49	61	61	3.8	5.4	4.2	5.6	5.6
7. Addison Street	46	59	49	61	61	1.2	1.7	1.3	1.8	1.8
8. Bancroft Way	46	59	49	61	61	1.2	1.7	1.3	1.8	1.8
9. 67th Street	56	72	60	74	74	1.7	2.5	2.0	2.6	2.6
10. 66th Street	56	72	60	74	74	1.7	2.5	2.0	2.6	2.6
11. 65th Street	56	72	60	74	74	2.3	3.4	2.7	3.5	3.5
12. Market Street	70	70	70	70	70.	4.6	4.6	4.6	4.6	4.6
13. M. L. King Blvd.	70	70	70	70	70	0.4	0.4	0.4	0.4	0.4
14. Clay Street	70	70	70	70	70	2.1	2.1	2.1	2.1	2.1
15. Washington Street*	70	70	70	70	70	0.8	0.8	0.8	0.8	0.8
16. Broadway*	70	70	70	70	70	16.1	16.1	16.1	16.1	16.1
17. Franklin Street*	70	70	70	70	70	2.2	2.2	2.2	2.2	2.2
18. Webster Street	70	70	70	70	70	4.3	4.3	4.3	4.3	4.3
19. Oak Street	70	70	70	70	70	4.6	4.6	4.6	4.6	4.6
20. 5th Avenue	29	29	29	29	29	3.6	3.6	3.6	3.6	3.6
21. 29th Avenue	19	19	19	19	19	2.2	2.2	2.2	2.2	2.2
22. Fruitvale Avenue	19	19	19	19	19	5.3	5.3	5.3	5.3	5.3
23. 37th Avenue	19	19	19	19	19	0.3	0.3	0.3	0.3	0.3
Total Delay						90.6	109.4	95.9	111.7	111.7

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996

Table J.9-2

FISCO/Port Vision 2000 EIS/EIR

Train Traffic At Roadway Crossings

No Project Alternative

Crossing Street	Number of Trains in Both Directions						Train Speed (mph)	
	Passenger *		Freight *		Switchers *	Total	Passenger	Freight/ Switchers
	1200	600	6000	1200	300			
1. Cutting Boulevard	4	20	18			42	60	60
2. Gilman Street	4	20	17	4	2	47	60	60
3. Camelia Street	4	20	17	4	2	47	60	60
4. Cedar Street	4	20	17	4	2	47	60	60
5. Virginia Street	4	20	17	4	2	47	60	60
6. Hearst Avenue	4	20	17	4	2	47	60	60
7. Addison Street	4	20	17	4	2	47	60	60
8. Bancroft Way	4	20	17	4	2	47	60	60
9. 67th Street	4	20	17	4	2	47	45	45
10. 66th Street	4	20	17	4	2	47	45	45
11. 65th Street	4	20	17	4	2	47	45	45
12. Market Street	10	30	4	4		48	15	15
13. M. L. King Blvd.	10	30	4	4		48	15	15
14. Clay Street	10	30	4	4		48	15	15
15. Washington Street	10	30	4	4		48	15	15
16. Broadway	10	30	4	4		48	15	15
17. Franklin Street	10	30	4	4		48	15	15
18. Webster Street	10	30	4	4		48	15	15
19. Oak Street	10	30	4	4		48	15	15
20. 5th Avenue	2	10	4	4		20	40	20
21. 29th Avenue	2	10	4	4		20	60	40
22. Fruitvale Avenue	2	10	4	4		20	60	40
23. 37th Avenue	2	10	4	4		20	60	40

* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

Table J.9-3

FISCO/Port Vision 2000 EIS/EIR

Gate Down Time At Roadway Crossings

No Project Alternative

Crossing Street	Gate Down Time Per Train (minutes)					Total Gate Down Time (min./day)
	Passenger *		Freight *		Switchers *	
	1200	600	6000	1200	300	
1. Cutting Boulevard	0.7	0.6	1.6	0.0	0.0	44
2. Gilman Street	0.7	0.6	1.6	0.7	0.6	46
3. Camelia Street	0.7	0.6	1.6	0.7	0.6	46
4. Cedar Street	0.7	0.6	1.6	0.7	0.6	46
5. Virginia Street	0.7	0.6	1.6	0.7	0.6	46
6. Hearst Avenue	0.7	0.6	1.6	0.7	0.6	46
7. Addison Street	0.7	0.6	1.6	0.7	0.6	46
8. Bancroft Way	0.7	0.6	1.6	0.7	0.6	46
9. 67th Street	0.8	0.7	2.0	0.8	0.6	56
10. 66th Street	0.8	0.7	2.0	0.8	0.6	56
11. 65th Street	0.8	0.7	2.0	0.8	0.6	56
12. Market Street	1.4	1.0	5.0	1.4	0.0	70
13. M. L. King Blvd.	1.4	1.0	5.0	1.4	0.0	70
14. Clay Street	1.4	1.0	5.0	1.4	0.0	70
15. Washington Street**	1.4	1.0	5.0	1.4	0.0	70
16. Broadway**	1.4	1.0	5.0	1.4	0.0	70
17. Franklin Street**	1.4	1.0	5.0	1.4	0.0	70
18. Webster Street	1.4	1.0	5.0	1.4	0.0	70
19. Oak Street	1.4	1.0	5.0	1.4	0.0	70
20. 5th Avenue	0.8	0.7	3.9	1.2	0.0	29
21. 29th Avenue	0.7	0.6	2.2	0.8	0.0	19
22. Fruitvale Avenue	0.7	0.6	2.2	0.8	0.0	19
23. 37th Avenue	0.7	0.6	2.2	0.8	0.0	19

* Values shown below train type represent the length of each train in feet.

** Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Table J.9-4
FISCO/Port Vision 2000 EIS/EIR
Traffic Volumes at Railroad Crossings
No Project Alternative

Crossing Street	Jurisdiction	Average Daily Traffic for Year Traffic Was Counted	Year Traffic Was Counted	Average Daily Traffic (2010)
1. Cutting Boulevard	Richmond	26,892	1994	31,270
2. Gilman Street	Berkeley	17,413	1986	21,830
3. Camelia Street	Berkeley		1996 (Estimated Max.)	2,280
4. Cedar Street	Berkeley	3,413	1986	4,280
5. Virginia Street	Berkeley	1,584	1986	1,980
6. Hearst Avenue	Berkeley	5,758	1986	7,220
7. Addison Street	Berkeley		1996 (Estimated Max.)	2,280
8. Bancroft Way	Berkeley		1996 (Estimated Max.)	2,280
9. 67th Street	Emeryville		1996 (Estimated Max.)	2,280
10. 66th Street	Emeryville		1996 (Estimated Max.)	2,280
11. 65th Street	Emeryville		1995	3,080
12. Market Street	Oakland	3,655	1996	3,920
13. M. L. King Blvd.	Oakland	309	1976	360
14. Clay Street	Oakland	1,531	1977	1,800
15. Washington Street	Oakland	613	1976	720
16. Broadway	Oakland	11,833	1978	13,800
17. Franklin Street	Oakland	1,626	1976	1,920
18. Webster Street	Oakland	3,111	1974	3,690
19. Oak Street	Oakland	3,340	1976	3,930
20. 5th Avenue	Oakland	6,224	1976	7,330
21. 29th Avenue	Oakland	9,034	1990	9,960
22. Fruitvale Avenue	Oakland	22,304	1993	24,220
23. 37th Avenue	Oakland	1,070	1994	1,160

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Note: Escalation factors were applied to escalate counts to 1996 estimated values as follows:
Cities of Richmond & Berkeley - 1% per year; City of Oakland 1/2% per year.

Table J.9-5
FISCO/Port Vision 2000 EIS/EIR
Vehicle Delay at Railroad Crossings
No Project Alternative

Crossing Street	Jurisdiction	Average Daily Traffic (2010)	Total Gate Down Time (min./day)	Vehicular Delay (hours/day)
1. Cutting Boulevard	Richmond	31,270	44	16.4
2. Gilman Street	Berkeley	21,830	46	11.4
3. Camelia Street	Berkeley	2,280	46	1.2
4. Cedar Street	Berkeley	4,280	46	2.2
5. Virginia Street	Berkeley	1,980	46	1.0
6. Hearst Avenue	Berkeley	7,220	46	3.8
7. Addison Street	Berkeley	2,280	46	1.2
8. Bancroft Way	Berkeley	2,280	46	1.2
9. 67th Street	Emeryville	2,280	56	1.7
10. 66th Street	Emeryville	2,280	56	1.7
11. 65th Street	Emeryville	3,080	56	2.3
12. Market Street	Oakland	3,920	70	4.6
13. M. L. King Blvd.	Oakland	360	70	0.4
14. Clay Street	Oakland	1,800	70	2.1
15. Washington Street*	Oakland	720	70	0.8
16. Broadway*	Oakland	13,800	70	16.1
17. Franklin Street*	Oakland	1,920	70	2.2
18. Webster Street	Oakland	3,690	70	4.3
19. Oak Street	Oakland	3,930	70	4.6
20. 5th Avenue	Oakland	7,330	29	3.6
21. 29th Avenue	Oakland	9,960	19	2.2
22. Fruitvale Avenue	Oakland	24,220	19	5.3
23. 37th Avenue	Oakland	1,160	19	0.3

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996

Table J.9-6

FISCO/Port Vision 2000 EIS/EIR

Train Traffic At Roadway Crossings

Maximum Marine/Maximum Rail Alternative

Crossing Street	Number of Trains in Both Directions						Train Speed (mph)	
	Passenger *		Freight *		Switchers *	Total	Passenger	Freight/ Switchers
	1200	600	6000	1200	300			
1. Cutting Boulevard	4	20	26			50	60	60
2. Gilman Street	4	20	26	2	2	54	60	60
3. Camelia Street	4	20	26	2	2	54	60	60
4. Cedar Street	4	20	26	2	2	54	60	60
5. Virginia Street	4	20	26	2	2	54	60	60
6. Hearst Avenue	4	20	26	2	2	54	60	60
7. Addison Street	4	20	26	2	2	54	60	60
8. Bancroft Way	4	20	26	2	2	54	60	60
9. 67th Street	4	20	26	2	2	54	45	45
10. 66th Street	4	20	26	2	2	54	45	45
11. 65th Street	4	20	26	2	2	54	45	45
12. Market Street	10	30	4	4		48	15	15
13. M. L. King Blvd.	10	30	4	4		48	15	15
14. Clay Street	10	30	4	4		48	15	15
15. Washington Street	10	30	4	4		48	15	15
16. Broadway	10	30	4	4		48	15	15
17. Franklin Street	10	30	4	4		48	15	15
18. Webster Street	10	30	4	4		48	15	15
19. Oak Street	10	30	4	4		48	15	15
20. 5th Avenue	2	10	4	4		20	40	20
21. 29th Avenue	2	10	4	4		20	60	40
22. Fruitvale Avenue	2	10	4	4		20	60	40
23. 37th Avenue	2	10	4	4		20	60	40

* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

Table J.9-7
FISCO/Port Vision 2000 EIS/EIR
Gate Down Time At Roadway Crossings
Maximum Marine/Maximum Rail Alternative

Crossing Street	Gate Down Time Per Train (minutes)					Total Gate Down Time (min./day)
	Passenger *		Freight *		Switchers *	
	1200	600	6000	1200	300	
1. Cutting Boulevard	0.7	0.6	1.6	0.0	0.0	56
2. Gilman Street	0.7	0.6	1.6	0.7	0.6	59
3. Camelia Street	0.7	0.6	1.6	0.7	0.6	59
4. Cedar Street	0.7	0.6	1.6	0.7	0.6	59
5. Virginia Street	0.7	0.6	1.6	0.7	0.6	59
6. Hearst Avenue	0.7	0.6	1.6	0.7	0.6	59
7. Addison Street	0.7	0.6	1.6	0.7	0.6	59
8. Bancroft Way	0.7	0.6	1.6	0.7	0.6	59
9. 67th Street	0.8	0.7	2.0	0.8	0.6	72
10. 66th Street	0.8	0.7	2.0	0.8	0.6	72
11. 65th Street	0.8	0.7	2.0	0.8	0.6	72
12. Market Street	1.4	1.0	5.0	1.4	0.0	70
13. M. L. King Blvd.	1.4	1.0	5.0	1.4	0.0	70
14. Clay Street	1.4	1.0	5.0	1.4	0.0	70
15. Washington Street**	1.4	1.0	5.0	1.4	0.0	70
16. Broadway**	1.4	1.0	5.0	1.4	0.0	70
17. Franklin Street**	1.4	1.0	5.0	1.4	0.0	70
18. Webster Street	1.4	1.0	5.0	1.4	0.0	70
19. Oak Street	1.4	1.0	5.0	1.4	0.0	70
20. 5th Avenue	0.8	0.7	3.9	1.2	0.0	29
21. 29th Avenue	0.7	0.6	2.2	0.8	0.0	19
22. Fruitvale Avenue	0.7	0.6	2.2	0.8	0.0	19
23. 37th Avenue	0.7	0.6	2.2	0.8	0.0	19

* Values shown below train type represent the length of each train in feet.

** Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Table J.9-8
FISCO/Port Vision 2000 EIS/EIR
Vehicle Delay at Railroad Crossings
Maximum Marine/Maximum Rail Alternative

Crossing Street	Jurisdiction	Average Daily Traffic (2010)	Total Gate Down Time (min./day)	Vehicular Delay (hours/day)
1. Cutting Boulevard	Richmond	31,270	56	23.0
2. Gilman Street	Berkeley	21,830	59	16.3
3. Camelia Street	Berkeley	2,280	59	1.7
4. Cedar Street	Berkeley	4,280	59	3.2
5. Virginia Street	Berkeley	1,980	59	1.5
6. Hearst Avenue	Berkeley	7,220	59	5.4
7. Addison Street	Berkeley	2,280	59	1.7
8. Bancroft Way	Berkeley	2,280	59	1.7
9. 67th Street	Emeryville	2,280	72	2.5
10. 66th Street	Emeryville	2,280	72	2.5
11. 65th Street	Emeryville	3,080	72	3.4
12. Market Street	Oakland	3,920	70	4.6
13. M. L. King Blvd.	Oakland	360	70	0.4
14. Clay Street	Oakland	1,800	70	2.1
15. Washington Street*	Oakland	720	70	0.8
16. Broadway*	Oakland	13,800	70	16.1
17. Franklin Street*	Oakland	1,920	70	2.2
18. Webster Street	Oakland	3,690	70	4.3
19. Oak Street	Oakland	3,930	70	4.6
20. 5th Avenue	Oakland	7,330	29	3.6
21. 29th Avenue	Oakland	9,960	19	2.2
22. Fruitvale Avenue	Oakland	24,220	19	5.3
23. 37th Avenue	Oakland	1,160	19	0.3

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996

Table J.9-9
FISCO/Port Vision 2000 EIS/EIR
Train Traffic At Roadway Crossings
Minimum Marine/Minimum Rail Alternative

Crossing Street	Number of Trains in Both Directions						Train Speed (mph)	
	Passenger *		Freight *		Switchers *	Total	Passenger	Freight/ Switchers
	1200	600	6000	1200	300			
1. Cutting Boulevard	4	20	20			44	60	60
2. Gilman Street	4	20	20	2	2	48	60	60
3. Camelia Street	4	20	20	2	2	48	60	60
4. Cedar Street	4	20	20	2	2	48	60	60
5. Virginia Street	4	20	20	2	2	48	60	60
6. Hearst Avenue	4	20	20	2	2	48	60	60
7. Addison Street	4	20	20	2	2	48	60	60
8. Bancroft Way	4	20	20	2	2	48	60	60
9. 67th Street	4	20	20	2	2	48	45	45
10. 66th Street	4	20	20	2	2	48	45	45
11. 65th Street	4	20	20	2	2	48	45	45
12. Market Street	10	30	4	4		48	15	15
13. M. L. King Blvd.	10	30	4	4		48	15	15
14. Clay Street	10	30	4	4		48	15	15
15. Washington Street	10	30	4	4		48	15	15
16. Broadway	10	30	4	4		48	15	15
17. Franklin Street	10	30	4	4		48	15	15
18. Webster Street	10	30	4	4		48	15	15
19. Oak Street	10	30	4	4		48	15	15
20. 5th Avenue	2	10	4	4		20	40	20
21. 29th Avenue	2	10	4	4		20	60	40
22. Fruitvale Avenue	2	10	4	4		20	60	40
23. 37th Avenue	2	10	4	4		20	60	40

* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

Table J.9-10

FISCO/Port Vision 2000 EIS/EIR

Gate Down Time At Roadway Crossings

Minimum Marine/Minimum Rail Alternative

Crossing Street	Gate Down Time Per Train (minutes)					Total Gate Down Time (min./day)
	Passenger *		Freight *		Switchers *	
	1200	600	6000	1200	300	
1. Cutting Boulevard	0.7	0.6	1.6	0.0	0.0	47
2. Gilman Street	0.7	0.6	1.6	0.7	0.6	49
3. Camelia Street	0.7	0.6	1.6	0.7	0.6	49
4. Cedar Street	0.7	0.6	1.6	0.7	0.6	49
5. Virginia Street	0.7	0.6	1.6	0.7	0.6	49
6. Hearst Avenue	0.7	0.6	1.6	0.7	0.6	49
7. Addison Street	0.7	0.6	1.6	0.7	0.6	49
8. Bancroft Way	0.7	0.6	1.6	0.7	0.6	49
9. 67th Street	0.8	0.7	2.0	0.8	0.6	60
10. 66th Street	0.8	0.7	2.0	0.8	0.6	60
11. 65th Street	0.8	0.7	2.0	0.8	0.6	60
12. Market Street	1.4	1.0	5.0	1.4	0.0	70
13. M. L. King Blvd.	1.4	1.0	5.0	1.4	0.0	70
14. Clay Street	1.4	1.0	5.0	1.4	0.0	70
15. Washington Street**	1.4	1.0	5.0	1.4	0.0	70
16. Broadway**	1.4	1.0	5.0	1.4	0.0	70
17. Franklin Street**	1.4	1.0	5.0	1.4	0.0	70
18. Webster Street	1.4	1.0	5.0	1.4	0.0	70
19. Oak Street	1.4	1.0	5.0	1.4	0.0	70
20. 5th Avenue	0.8	0.7	3.9	1.2	0.0	29
21. 29th Avenue	0.7	0.6	2.2	0.8	0.0	19
22. Fruitvale Avenue	0.7	0.6	2.2	0.8	0.0	19
23. 37th Avenue	0.7	0.6	2.2	0.8	0.0	19

* Values shown below train type represent the length of each train in feet.

** Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Table J.9-11

FISCO/Port Vision 2000 EIS/EIR

Vehicle Delay at Railroad Crossings

Minimum Marine/Minimum Rail Alternative

Crossing Street	Jurisdiction	Average Daily Traffic (2010)	Total Gate Down Time (min./day)	Vehicular Delay (hours/day)
1. Cutting Boulevard	Richmond	31,270	47	18.0
2. Gilman Street	Berkeley	21,830	49	12.8
3. Camelia Street	Berkeley	2,280	49	1.3
4. Cedar Street	Berkeley	4,280	49	2.5
5. Virginia Street	Berkeley	1,980	49	1.2
6. Hearst Avenue	Berkeley	7,220	49	4.2
7. Addison Street	Berkeley	2,280	49	1.3
8. Bancroft Way	Berkeley	2,280	49	1.3
9. 67th Street	Emeryville	2,280	60	2.0
10. 66th Street	Emeryville	2,280	60	2.0
11. 65th Street	Emeryville	3,080	60	2.7
12. Market Street	Oakland	3,920	70	4.6
13. M. L. King Blvd.	Oakland	360	70	0.4
14. Clay Street	Oakland	1,800	70	2.1
15. Washington Street*	Oakland	720	70	0.8
16. Broadway*	Oakland	13,800	70	16.1
17. Franklin Street*	Oakland	1,920	70	2.2
18. Webster Street	Oakland	3,690	70	4.3
19. Oak Street	Oakland	3,930	70	4.6
20. 5th Avenue	Oakland	7,330	29	3.6
21. 29th Avenue	Oakland	9,960	19	2.2
22. Fruitvale Avenue	Oakland	24,220	19	5.3
23. 37th Avenue	Oakland	1,160	19	0.3

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996

Table J.9-12

FISCO/Port Vision 2000 EIS/EIR

Train Traffic At Roadway Crossings

Maximum Marine/Minimum Rail Alternative

Crossing Street	Number of Trains in Both Directions						Train Speed (mph)	
	Passenger *		Freight *		Switchers *	Total	Passenger	Freight/ Switchers
	1200	600	6000	1200	300			
1. Cutting Boulevard	4	20	27			51	60	60
2. Gilman Street	4	20	27	2	2	55	60	60
3. Camelia Street	4	20	27	2	2	55	60	60
4. Cedar Street	4	20	27	2	2	55	60	60
5. Virginia Street	4	20	27	2	2	55	60	60
6. Hearst Avenue	4	20	27	2	2	55	60	60
7. Addison Street	4	20	27	2	2	55	60	60
8. Bancroft Way	4	20	27	2	2	55	60	60
9. 67th Street	4	20	27	2	2	55	45	45
10. 66th Street	4	20	27	2	2	55	45	45
11. 65th Street	4	20	27	2	2	55	45	45
12. Market Street	10	30	4	4		48	15	15
13. M. L. King Blvd.	10	30	4	4		48	15	15
14. Clay Street	10	30	4	4		48	15	15
15. Washington Street	10	30	4	4		48	15	15
16. Broadway	10	30	4	4		48	15	15
17. Franklin Street	10	30	4	4		48	15	15
18. Webster Street	10	30	4	4		48	15	15
19. Oak Street	10	30	4	4		48	15	15
20. 5th Avenue	2	10	4	4		20	40	20
21. 29th Avenue	2	10	4	4		20	60	40
22. Fruitvale Avenue	2	10	4	4		20	60	40
23. 37th Avenue	2	10	4	4		20	60	40

* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

Table J.9-13

FISCO/Port Vision 2000 EIS/EIR

Gate Down Time At Roadway Crossings

Maximum Marine/Minimum Rail Alternative

Crossing Street	Gate Down Time Per Train (minutes)					Total Gate Down Time (min./day)
	Passenger *		Freight *		Switchers *	
	1200	600	6000	1200	300	
1. Cutting Boulevard	0.7	0.6	1.6	0.0	0.0	58
2. Gilman Street	0.7	0.6	1.6	0.7	0.6	61
3. Camelia Street	0.7	0.6	1.6	0.7	0.6	61
4. Cedar Street	0.7	0.6	1.6	0.7	0.6	61
5. Virginia Street	0.7	0.6	1.6	0.7	0.6	61
6. Hearst Avenue	0.7	0.6	1.6	0.7	0.6	61
7. Addison Street	0.7	0.6	1.6	0.7	0.6	61
8. Bancroft Way	0.7	0.6	1.6	0.7	0.6	61
9. 67th Street	0.8	0.7	2.0	0.8	0.6	74
10. 66th Street	0.8	0.7	2.0	0.8	0.6	74
11. 65th Street	0.8	0.7	2.0	0.8	0.6	74
12. Market Street	1.4	1.0	5.0	1.4	0.0	70
13. M. L. King Blvd.	1.4	1.0	5.0	1.4	0.0	70
14. Clay Street	1.4	1.0	5.0	1.4	0.0	70
15. Washington Street**	1.4	1.0	5.0	1.4	0.0	70
16. Broadway**	1.4	1.0	5.0	1.4	0.0	70
17. Franklin Street**	1.4	1.0	5.0	1.4	0.0	70
18. Webster Street	1.4	1.0	5.0	1.4	0.0	70
19. Oak Street	1.4	1.0	5.0	1.4	0.0	70
20. 5th Avenue	0.8	0.7	3.9	1.2	0.0	29
21. 29th Avenue	0.7	0.6	2.2	0.8	0.0	19
22. Fruitvale Avenue	0.7	0.6	2.2	0.8	0.0	19
23. 37th Avenue	0.7	0.6	2.2	0.8	0.0	19

* Values shown below train type represent the length of each train in feet.

** Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Table J.9-14
FISCO/Port Vision 2000 EIS/EIR
Vehicle Delay at Railroad Crossings
Maximum Marine/Minimum Rail Alternative

Crossing Street	Jurisdiction	Average Daily Traffic (2010)	Total Gate Down Time (min./day)	Vehicular Delay (hours/day)
1. Cutting Boulevard	Richmond	31,270	58	23.9
2. Gilman Street	Berkeley	21,830	61	16.9
3. Camelia Street	Berkeley	2,280	61	1.8
4. Cedar Street	Berkeley	4,280	61	3.3
5. Virginia Street	Berkeley	1,980	61	1.5
6. Hearst Avenue	Berkeley	7,220	61	5.6
7. Addison Street	Berkeley	2,280	61	1.8
8. Bancroft Way	Berkeley	2,280	61	1.8
9. 67th Street	Emeryville	2,280	74	2.6
10. 66th Street	Emeryville	2,280	74	2.6
11. 65th Street	Emeryville	3,080	74	3.5
12. Market Street	Oakland	3,920	70	4.6
13. M. L. King Blvd.	Oakland	360	70	0.4
14. Clay Street	Oakland	1,800	70	2.1
15. Washington Street*	Oakland	720	70	0.8
16. Broadway*	Oakland	13,800	70	16.1
17. Franklin Street*	Oakland	1,920	70	2.2
18. Webster Street	Oakland	3,690	70	4.3
19. Oak Street	Oakland	3,930	70	4.6
20. 5th Avenue	Oakland	7,330	29	3.6
21. 29th Avenue	Oakland	9,960	19	2.2
22. Fruitvale Avenue	Oakland	24,220	19	5.3
23. 37th Avenue	Oakland	1,160	19	0.3

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996

Table J.9-15
FISCO/Port Vision 2000 EIS/EIR
Train Traffic At Roadway Crossings
Reduced Harbor Fill Alternative

Crossing Street	Number of Trains in Both Directions						Train Speed (mph)	
	Passenger *		Freight *		Switchers *	Total	Passenger	Freight/ Switchers
	1200	600	6000	1200	300			
1. Cutting Boulevard	4	20	27			51	60	60
2. Gilman Street	4	20	27	2	2	55	60	60
3. Camelia Street	4	20	27	2	2	55	60	60
4. Cedar Street	4	20	27	2	2	55	60	60
5. Virginia Street	4	20	27	2	2	55	60	60
6. Hearst Avenue	4	20	27	2	2	55	60	60
7. Addison Street	4	20	27	2	2	55	60	60
8. Bancroft Way	4	20	27	2	2	55	60	60
9. 67th Street	4	20	27	2	2	55	45	45
10. 66th Street	4	20	27	2	2	55	45	45
11. 65th Street	4	20	27	2	2	55	45	45
12. Market Street	10	30	4	4		48	15	15
13. M. L. King Blvd.	10	30	4	4		48	15	15
14. Clay Street	10	30	4	4		48	15	15
15. Washington Street	10	30	4	4		48	15	15
16. Broadway	10	30	4	4		48	15	15
17. Franklin Street	10	30	4	4		48	15	15
18. Webster Street	10	30	4	4		48	15	15
19. Oak Street	10	30	4	4		48	15	15
20. 5th Avenue	2	10	4	4		20	40	20
21. 29th Avenue	2	10	4	4		20	60	40
22. Fruitvale Avenue	2	10	4	4		20	60	40
23. 37th Avenue	2	10	4	4		20	60	40

* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

Table J.9-16
FISCO/Port Vision 2000 EIS/EIR
Gate Down Time At Roadway Crossings
Reduced Harbor Fill Alternative

Crossing Street	Gate Down Time Per Train (minutes)					Total Gate Down Time (min./day)
	Passenger *		Freight *		Switchers *	
	1200	600	6000	1200	300	
1. Cutting Boulevard	0.7	0.6	1.6	0.0	0.0	58
2. Gilman Street	0.7	0.6	1.6	0.7	0.6	61
3. Camelia Street	0.7	0.6	1.6	0.7	0.6	61
4. Cedar Street	0.7	0.6	1.6	0.7	0.6	61
5. Virginia Street	0.7	0.6	1.6	0.7	0.6	61
6. Hearst Avenue	0.7	0.6	1.6	0.7	0.6	61
7. Addison Street	0.7	0.6	1.6	0.7	0.6	61
8. Bancroft Way	0.7	0.6	1.6	0.7	0.6	61
9. 67th Street	0.8	0.7	2.0	0.8	0.6	74
10. 66th Street	0.8	0.7	2.0	0.8	0.6	74
11. 65th Street	0.8	0.7	2.0	0.8	0.6	74
12. Market Street	1.4	1.0	5.0	1.4	0.0	70
13. M. L. King Blvd.	1.4	1.0	5.0	1.4	0.0	70
14. Clay Street	1.4	1.0	5.0	1.4	0.0	70
15. Washington Street**	1.4	1.0	5.0	1.4	0.0	70
16. Broadway**	1.4	1.0	5.0	1.4	0.0	70
17. Franklin Street**	1.4	1.0	5.0	1.4	0.0	70
18. Webster Street	1.4	1.0	5.0	1.4	0.0	70
19. Oak Street	1.4	1.0	5.0	1.4	0.0	70
20. 5th Avenue	0.8	0.7	3.9	1.2	0.0	29
21. 29th Avenue	0.7	0.6	2.2	0.8	0.0	19
22. Fruitvale Avenue	0.7	0.6	2.2	0.8	0.0	19
23. 37th Avenue	0.7	0.6	2.2	0.8	0.0	19

* Values shown below train type represent the length of each train in feet.

** Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Table J.9-17

FISCO/Port Vision 2000 EIS/EIR

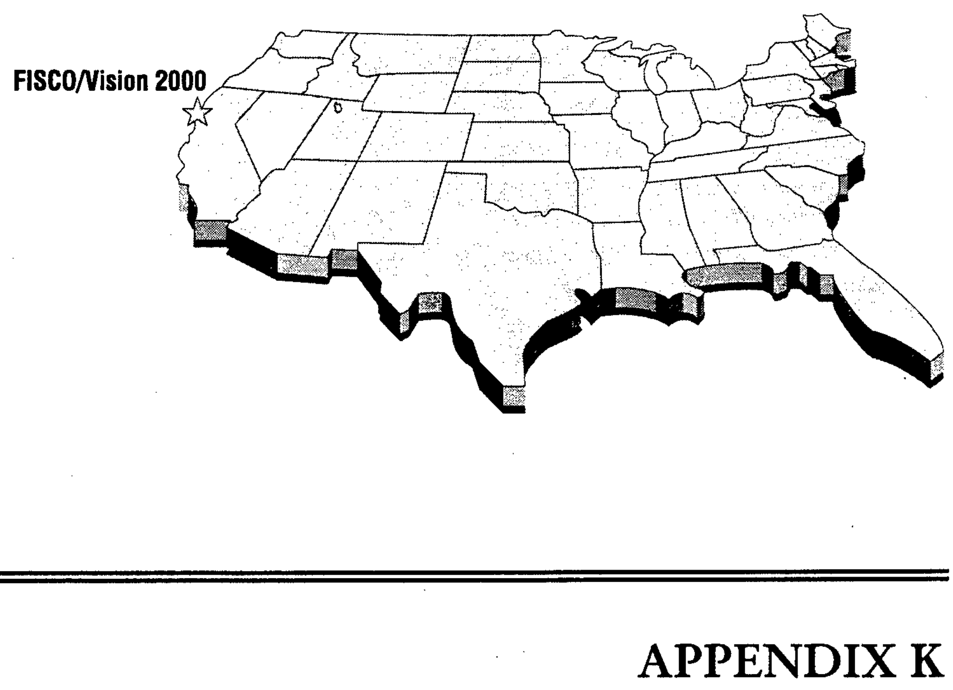
Vehicle Delay at Railroad Crossings

Reduced Harbor Fill Alternative

Crossing Street	Jurisdiction	Average Daily Traffic (2010)	Total Gate Down Time (min./day)	Vehicular Delay (hours/day)
1. Cutting Boulevard	Richmond	31,270	58	23.9
2. Gilman Street	Berkeley	21,830	61	16.9
3. Camelia Street	Berkeley	2,280	61	1.8
4. Cedar Street	Berkeley	4,280	61	3.3
5. Virginia Street	Berkeley	1,980	61	1.5
6. Hearst Avenue	Berkeley	7,220	61	5.6
7. Addison Street	Berkeley	2,280	61	1.8
8. Bancroft Way	Berkeley	2,280	61	1.8
9. 67th Street	Emeryville	2,280	74	2.6
10. 66th Street	Emeryville	2,280	74	2.6
11. 65th Street	Emeryville	3,080	74	3.5
12. Market Street	Oakland	3,920	70	4.6
13. M. L. King Blvd.	Oakland	360	70	0.4
14. Clay Street	Oakland	1,800	70	2.1
15. Washington Street*	Oakland	720	70	0.8
16. Broadway*	Oakland	13,800	70	16.1
17. Franklin Street*	Oakland	1,920	70	2.2
18. Webster Street	Oakland	3,690	70	4.3
19. Oak Street	Oakland	3,930	70	4.6
20. 5th Avenue	Oakland	7,330	29	3.6
21. 29th Avenue	Oakland	9,960	19	2.2
22. Fruitvale Avenue	Oakland	24,220	19	5.3
23. 37th Avenue	Oakland	1,160	19	0.3

* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.
Nolte and Associates 1996
Dowling Associates 1996



APPENDIX K
NOISE

K-1: Summary of Noise Limits Established in the Oakland Noise Ordinances

Appendix K
Noise

Table K-1
Summary of Noise Limits Established in the Oakland Noise Ordinances

Noise Source	Affected Properties	Time Period	Specified or Equivalent Noise Limits
Construction and demolition activities lasting less than 10 days	Residential land uses, on weekdays	7 am - 7 pm 7 pm - 7 am	80 dBA, maximum 65 dBA maximum; 50 dBA, 1-hr Leq
	Residential land uses, on weekends and federal holidays land uses, on weekdays	9 am - 8 pm 8 pm - 9 am	65 dBA, maximum 65 dBA maximum; 50 dBA, 1-hr Leq
	Commercial and Industrial land uses on weekdays	7 am - 7 pm 7 pm - 7 am	85 dBA, maximum 85 dBA maximum; 70 dBA, 1-hr Leq
	Commercial and Industrial land uses, on weekends and federal holidays	9 am - 8 pm 8 pm - 9 am	70 dBA, maximum 85 dBA maximum; 70 dBA, 1-hr Leq
Construction and demolition activities lasting 10 days or more	Residential land uses, on weekdays	7 am - 7 pm 7 pm - 7 am	65 dBA, maximum 65 dBA maximum; 50 dBA, 1-hr Leq
	Residential land uses, on weekends and federal holidays	9 am - 8 pm 8 pm - 9 am	55 dBA, maximum 65 dBA maximum; 50 dBA, 1-hr Leq
	Commercial and industrial land uses, on weekdays	7 am - 7 pm 7 pm - 7 am	70 dBA, maximum 85 dBA maximum; 70 dBA, 1-hr Leq
	Commercial and industrial land uses, on weekends and federal holidays	9 am - 8 pm 8 pm - 9 am	60 dBA, maximum 85 dBA maximum; 70 dBA, 1-hr Leq
Residential air conditioning units installed before June 11, 1996	All properties	Any time	55 dBA, maximum
Residential air conditioning units installed after June 11, 1996	All properties	Any time	50 dBA, maximum
Enclosed commercial refrigeration units within 200 feet of residential properties	Residential land uses	10 pm - 7 am	60 dBA, maximum outside enclosure

Noise Source	Affected Properties	Time Period	Specified or Equivalent Noise Limits
Other stationary or mobile commercial refrigeration units	Residential and Civic land uses	7 am - 10 pm 10 pm - 7 am	80 dBA maximum; 65 dBA, 1-hr Leq 65 dBA maximum; 50 dBA, 1-hr Leq
	Commercial land uses	Any time	85 dBA maximum; 70 dBA, 1-hr Leq
	Manufacturing, Agriculture, and Extractive land uses	Any time	90 dBA maximum; 75 dBA, 1-hr Leq
Enclosed commercial ventilation exhaust systems within 200 feet of residential properties	Residential land uses	10 pm - 7 am	60 dBA, maximum outside enclosure
Other commercial exhaust ventilation systems	Residential and Civic land uses	7 am - 10 pm 10 pm - 7 am	80 dBA maximum; 65 dBA, 1-hr Leq 65 dBA maximum; 50 dBA, 1-hr Leq
	Commercial land uses	Any time	85 dBA maximum; 70 dBA, 1-hr Leq
	Manufacturing, Agriculture, and Extractive land uses	Any time	90 dBA maximum; 75 dBA, 1-hr Leq
Sound amplification equipment (including portable or car audio equipment) operated in any park without a permit	Parks and adjacent property	Any time	Audible at a distance of 50 feet or more from the noise source
Sound amplification equipment operated in any park under terms of a valid permit	Adjacent to park boundaries	Any time	80 dBA, maximum
Testing of stationary alarms or other emergency signaling devices		7 am - 7 pm 7 pm - 7 am	No more than 60 seconds Prohibited
Testing of complete emergency response systems including signaling devices		7 am - 10 pm 10 pm - 7 am	No more than once each month Prohibited
Activated burglar and fire alarms (including car alarms)		Any time	Must be deactivated within 15 minutes
Stationary non-emergency signaling devices, bells, whistles, etc. (excluding devices at churches and schools)		Any time	No more than 10 seconds in any hour

Noise Source	Affected Properties	Time Period	Specified or Equivalent Noise Limits
Loading and unloading activities	Residential land uses	9 pm - 6 am	Must not create a noise disturbance or exceed general noise limits in the Oakland Planning Code
Domestic power tools and machinery	Any land use	9 pm - 6 am	Must not create a noise disturbance or exceed general noise limits in the Oakland Planning Code
Noise sources not specifically covered by other limits (general Planning Code limits)	Residential and Civic land uses	7 am - 10 pm 10 pm - 7 am	80 dBA maximum; 65 dBA, 1-hr Leq 65 dBA maximum; 50 dBA, 1-hr Leq
	Commercial land uses	Any time	85 dBA maximum; 70 dBA, 1-hr Leq
	Manufacturing, Agriculture, and Extractive land uses	Any time	90 dBA maximum; 75 dBA, 1-hr Leq

Note: Oakland Ordinance 11894 also contains general prohibitions against excessive or annoying noise and vibration. Federal and state law generally preempt local regulation of traffic, rail, and aircraft noise.
Source: City of Oakland Ordinances 11893, 11894, and 11895.

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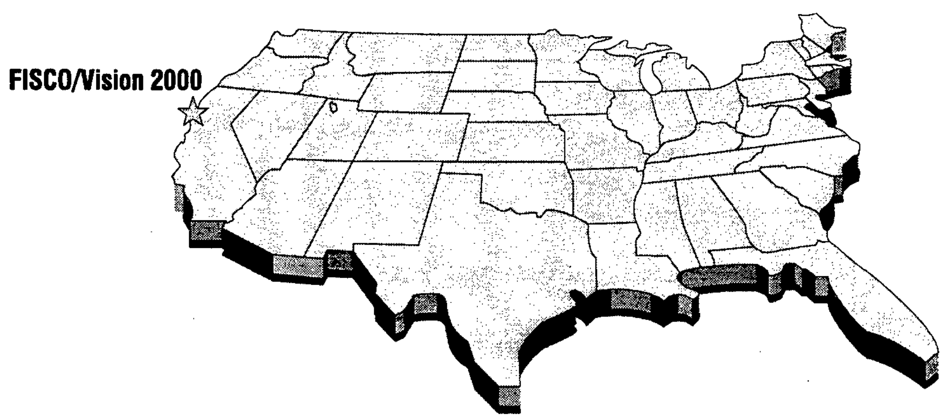


APPENDIX L
HAZARDOUS WASTE AND MATERIALS

Table L-1
1995 FISCO Hazardous Materials Inventory

Parcel No.	Building No.	Material Category	Maximum Quantity (pounds)
511D	511D	fuel, diesel	83.967
511D	511D	fuel, unleaded gasoline	92,463
320	321	detergents	200
511	511	cleaners	1,377
		deodorizers	459
123	123W	acetylene	368
		antifreeze	1,027
		hydraulic fluid	108
		solvents	860
		lubricants	890
123	123E	adhesives	500
		glazing compound	128
		herbicides	302
		joint compound	417
		sealers	542
		solvents	644
542	542	acetone	360
		adhesives	1,517
		brake fluid	132
		cement	490
		citric acid	3,200
		cleaners	76,238
		coating compounds	3,752
		coolant fluid	16,360
		corrosion prevention compd.	2,435
		deodorizers	241
		deoxidizer	1,848
		descaler	3,246
		detergent	4,798
		disinfectant	416
		fire extinguisher	832
		floor wax	6,053
		grease	3,677
		isopropyl alcohol	1,296
		hydraulic fluid	35,551
		ion exchange compound	872
		masonry surface conditioner	1,620
		methyl ethyl ketone	306

Table L-1 *(continued)*
1995 FISCO Hazardous Materials Inventory

Parcel No.	Building No.	Material Category	Maximum Quantity (pounds)
		oil	6,623
		paint	41,860
		polish	456
		sealers	2,239
		sodium hypochlorite	1,140
		solvents	11,876
		strippers	2,523
		sulfuric acid	187
		tetrachloroethylene	24,127
		thinners	502
		toluene	1,052
		trichloroethane	2,006
		wire rope exposed	525
310	310	Amerold OSC	200
		cleaners	1,196
		detergents	1,400
		fire extinguisher	100
		floor wax	625
		freon	390
		magnesium chloride	320
		oil	100
		paint	500
		polish	180
		refractory mix	1,310
		sealant	250
		thinner	500
711	711	absorbents	8,440
		acetylene	10,977
		activated desiccant	2,090
		adhesives	2,232
		isopropyl alcohol	210
		ammonia	18,407
		antifreeze	39,400
		argon	23,370
		brake fluid	2,800
		calibration fluid	1,050
		carbon dioxide	66,833
		carbon removal compd.	1,400
		caulking compd.	120
		cement	120
		chlorine	159,300

Table L-1 *(continued)*
1995 FISCO Hazardous Materials Inventory

Parcel No.	Building No.	Material Category	Maximum Quantity (pounds)
		cleaners	38,010
		coating compounds	3,205
		corrosion prevention compound	1,963
		cutting fluid	1,272
		detergent	29,180
		developers	420
		disinfectants	3,552
		ethyl acetate	945
		fire extinguisher	1,700
		fixers	2,790
		floor wax	4,436
		freon	152,668
		grease	241,674
		helium	44,735
		hydraulic fluid	143,897
		hydrogen	156,100
		inspection penetrants	620
		insulating compounds.	20,106
		ion exchange compound	361,550
		laundry starch	1,840
		leak test/detect compound	11,623
		lubricants	495
		mercury	180
		nitrogen gas	177,920
		oils	41,600
		oxygen gas	124,091
		paint	3,540
		pesticides	1,992
		petroleum	920
		potassium carbonate	3,200
		potassium hydroxide	9,426
		propane	4,160
		sealers	950
		silicone compounds.	110
		sodium chloride	1,800
		sodium hydroxide	800
		solvents	31,760
		spackling paste	315
		strippers	4,900
		thinners	180
		titrating solutions	812
		toners	1,230

Table L-1 *(continued)*
1995 FISCO Hazardous Materials Inventory

Parcel No.	Building No.	Material Category	Maximum Quantity (pounds)
342	342	absorbents	606
		caulking compound	1,200
		cleaners	400
		concrete	1,840
		moisture displacer	105
		oil	450
		silicone compounds.	220
		solvents	324
		stucco mix	180
441	441 B	lubricants	156
		solvents	550
533	533	concrete	4,800
		sealers	900
		solvents	440
534	534	abrasive blasting materials	2,500
		glass traffic beads	1850
541	541	absorbents	1,000
		adhesives	4,896
		cement	13,217
		drywall compound	7,565
		grease	216
		lubricants	1,345
		oil	389
		paint	200
		roof sealing compound	1,700
		sealers	1,477
		thinners	1,044
		urethane	209
		welding rods	209
833	833	acetylene	1,460
		adhesives	100
		antifreeze	220
		cement	1,280
		cleaners	1,648
		corrosion prevention compound	440
		grease	3,780
		hydraulic fluid	14,140
		oil	24,748
		oxygen gas	2,200

Table L-1 *(continued)*
1995 FISCO Hazardous Materials Inventory

Parcel No.	Building No.	Material Category	Maximum Quantity (pounds)
		paint solvents thinners	454 3,064 180

pounds = pounds per year
Source: US Navy 1996~~i~~h

TABLE L-2. PHASES OF THE CERCLA REMEDIATION PROCESS

Phases of the CERCLA remediation process are described below.

Site Discovery (SD). A site is an area that has had or has the potential for a hazardous substance release. A single facility may contain several sites to be studied under the IRP. Occasionally, potential sites are discovered by searching through records or during construction projects.

Preliminary Assessment (PA). This assessment identifies areas of potential contamination and evaluates each area to determine if a threat to human health or the environment exists. A PA report is developed from readily available information, such as past inventory records, aerial photographs, employee interviews, existing analytical data, and an activity visit. A PA may recommend no further action, additional work under the IRP, or a removal action.

Site Inspection (SI). This inspection is conducted after the PA when additional information is needed to evaluate a site. The collection and analysis of soil, sediment, and surface and ground water samples may help to determine the need for further study. Information needed for hazard ranking also is collected. An SI may recommend a site for no action, further study, or an immediate removal action. The PA and SI are often performed concurrently.

Hazard Ranking System (HRS). This system provides a uniform method of scoring or ranking the potential risk of a site where a hazardous substance has been present. A site in this context refers to the entire FISCO complex. The EPA developed the HRS to prioritize clean-up efforts. The EPA evaluates the draft HRS packages and proposes any facility scoring 28.5 or higher for inclusion on the National Priorities List (NPL). Facilities that are listed on the NPL receive the highest priority. FISCO is not on the NPL.

Removal Actions (RO). In the event of an immediate threat or potential threat to human health or the environment, a short-term mitigating or cleanup action may be implemented. The goal of the removal action is to isolate the contamination hot spots and their source from all biological receptors. Usually, removal actions do not completely clean up a site, and additional remediation steps are required.

Remedial Investigation (RI). This investigation is performed to more fully define the nature and extent of the contamination at a site and to evaluate possible methods of cleaning up the site. During the investigation, ground water, surface water, soil, sediment, and biological samples are collected and analyzed to determine the type and concentration of each contaminant. Samples are collected at different areas and depths to help determine the spread of the contamination. The RI process at FISCO is typically done in two phases— Phase I, site characterization and Phase II, characterization of the constituents of concern, the migration pathways, and the potential hazards to human health and the environment.

Feasibility Study (FS). The feasibility study identifies and evaluates all applicable site cleanup alternatives. As part of the study, a risk assessment is performed to quantify the level of risk to the public and environment posed by the site. Often, the risk assessment determines which alternative is selected for final remediation. Each alternative is evaluated for effectiveness in protecting human health and the environment, ease of implementation, and overall cost. Typically, the RI and FS are performed concurrently.

Remedial Action Plans (RAP)/Record of Decision (ROD). These two documents are essentially the same. RAP is the state term while ROD is federal. The RAP/ROD documents the reasoning behind the selection of a particular cleanup alternative. A RAP/ROD is required even if the most feasible alternative is no action.

Remedial Design (RD). After the RAP/ROD is signed, the remedial design phase can begin. In the RD, specific construction parameters and/or equipment specifications are presented for the selected cleanup alternative.

Remedial Action (RA). During the remedial action phase, the selected cleanup technology is implemented. RA can be as simple as soil excavation or as complicated as a complete ground water treatment system which may operate for many years. Remedial action work plans for long-term remediations include operation and maintenance (O&M) plans. O&M efforts continue until the cleanup is complete.

Long-term Monitoring. After completion of the RA, federal, state, or local regulatory agencies may require subsequent monitoring of the site.

TABLE L-3. FISCO INSTALLATION RESTORATION PROGRAM SITES

The following is a brief discussion of the ten remedial investigation (RI) sites and the remediation areas based on the information presented in the final scoping plan (US Navy 1992b) the Final Environmental Baseline Survey (EBS) (US Navy 1996h) and the Final Base Realignment and Closure Cleanup Plan (BCP) (US Navy 1996i).

Remedial Investigation Area I

Area 1 consists of sites IRP 01 (Lot 612), IRP 03 (Building 511E), IRP 12 (former location of Building 414), IRP 13 (former location of Building 411), and IRP 14 (Buildings 511 and 511B). A brief description of each IRP site is as follows.

IRP 01: Lot 612 - Hazardous Waste Storage Lot. Lot 612 is located in the northeastern portion of FISCO and consists of three large buildings (Buildings 612, 612A, and 612C) and three small buildings (612B, 612E, and 612F) surrounded by an open area. This RI site was used by the Defense Reutilization and Marketing Office (DRMO) as a scrapyard and storage area for materials from military installations throughout the Bay Area up to 1980. Materials stored and staged at this site include hazardous wastes, such as paints, waste solvents, pesticides, halogenated and nonhalogenated solvents, thinners, corrosives, and heavy metal sludge. In addition, PCBs also may have been stored at this site. In 1981, Public Works Center (PWC) took over the site and had a private contractor remove and dispose of all on-site waste (US Navy 1992b).

As part of the SI, 14 soil borings were drilled in the vicinity of the eight wooden 20 feet by 20 feet open storage bins and the staging area location northeast of the bins, and 26 soil samples were collected. Analytical results for the soil samples indicate that petroleum hydrocarbons, such as diesel and toluene, are present in the soil at this site. In addition, some solvents, such as acetone and vinyl chloride, were detected (US Navy 1992b).

According to the remedial phase I investigation report, one surface soil samples was collected east of Building 612-B. Analytical results indicated that the concentrations for seven metals, including lead, exceeded preliminary remediation goals (PRG) for residential land uses. In addition, the arsenic concentration in this sample exceeded PRGs for industrial land uses (US Navy 1995d).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of lead and mercury-contaminated surface soil is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 03: Building 511-E - Stained Oil Areas. Building 511-E is located in the northeastern portion of FISCO and consists of a building and concrete pad, which were constructed in 1942. The building was used up to 1950 as a rigging loft for cranes. Since 1980, the area immediately surrounding Building 511-E was used for

handling materials that required redrumming or overpacking. Between 1980 and 1983, this area was used to redrum waste materials (US Navy 1992b).

Four soil borings were drilled at the site as part of the SI, and soil samples were collected. Analytical results for the soil samples indicated that petroleum hydrocarbons, volatile organic compounds (VOCs), and semivolatile compounds (SVOCs) were detected in the soil (US Navy 1992b).

According to the remedial phase I investigation report, two sludge samples were collected from a drainage sump adjacent to Building 511B. High concentrations of solvents, SVOCs, petroleum hydrocarbons and lead were reported to have been detected in these samples (US Navy 1995d).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of asphalt contaminated with lead is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 12: Former Building 414 - Transportation Maintenance Shop and Lot. IRP 12 is located in located the north central portion of FISCO and consists of building 414 a surrounding lot. The structure was constructed in the 1940s and was used for storage up to 1984. The building was later used for maintenance activities on Navy vehicles and equipment from 1984 to 1989. The building was condemned after the 1989 Loma Prieta earthquake and later demolished. Based on the PA conducted 1991, a Phase I RI was conducted at this IRP site. Currently a Phase II RI/FS is pending (US Navy 1992b; US Navy 1996i).

IRP 13: Former Building 411 - Transportation Maintenance Shop and Lot. IRP 13 is located in the northern portion of FISCO and consists of a building surrounded by an open area. The site was used up to 1989 as a maintenance area for vehicles and light equipment. The building was condemned after the 1989 Loma Prieta earthquake. Five hydraulic lifts and two waste oil underground storage tanks (USTs) (Tanks 411-1 and 411-2) were located at the site. The USTs were removed in the fall of 1992 as part of the Navy Clean Contract (US Navy 1992b; US Navy 1996i).

As part of the SI, seven soil borings were drilled at the site. Soil and ground water samples were collected, and the analytical results for the soil samples indicated that petroleum hydrocarbons, VOCs, and SVOCs were present in the soil at this site. VOCs were detect in some of the ground water samples collected from the site (US Navy 1992b).

Currently, a phase II RI/FS and field scale pilot test are to be conducted at this site (US Navy 1996i).

IRP 14: Buildings 511 & 511B - Heavy Equipment Repair. IRP 14 site is located in the northern portion of FISCO. The site consists of two buildings surrounded by

an open lot. Building 511 was used as a locomotive repair shop from 1942, when it was constructed, to 1975. This building was later used as a repair shop for heavy equipment from 1975 to 1989. Currently, this building is used to store and classify recyclable dry goods, such as paper and cardboard. Building 511-B was used up to 1989 as an automobile and small truck wash (US Navy 1992b).

Four USTs formerly were located at this site— two 12,300-gallon diesel USTs (Tanks 511F-1 and 511F-2), one 2,300-gallon gasoline UST (Tank 511F-3), and one 750-gallon waste oil UST (Tank 511-1). The USTs were removed in the fall of 1992 as part of the Navy Clean contract. Analytical results for the soil samples collected during the UST removal activities indicated that a release of petroleum hydrocarbons has occurred in the vicinity of the USTs.

Under the SI, six soil borings were drilled in the vicinity of the USTs, oil water separator, and the shop drains. Soil, ground water, and sludge samples were collected during the SI investigation. Analytical results for the soil and ground water samples indicate the presence detectable concentrations of VOCs, SVOCs, petroleum hydrocarbons, and metals (US Navy 1992b). Currently, a phase II RI/FS is to be conducted at this site (US Navy 1996i).

Remedial Investigation Area II

Area II consists of IRP 02 (former Buildings 740C and 738), IRP 15 (Lots 642, 643, and 644), and IRP 21 (Lot 645). A brief discussion of each site follows.

IRP 02: Buildings 740C and 738 - Stained Soil Areas. IRP 02 is located in the southeastern part of the FISCO and consists of two attached buildings (Buildings 740C and 738), a closed Imhoff tank and one 3,600-gallon UST (Tank 740). The western ends of the buildings were used to stage equipment, drums, and materials, which included lubricants, solvents, paints, and motor oil. The buildings were used as an auto hobby shop until they were closed in 1985 due to structural problems. Wastes from automotive repair, such as sandblasting grit, lubricants, solvents, and paints, were reportedly disposed of in an unpaved area surrounding the Imhoff tank. Tank 740 was removed in the fall of 1992 as part of the Navy Clean Contract (US Navy 1992b).

Seven soil borings were drilled and one composite surface sample was collected at the site as part of the SI. Based on the analytical results for the soil and ground water samples collected, petroleum products, VOCs, SVOCs, and metals were detected in the soil and ground water samples (US Navy 1992b).

Based upon the results of the sampling data, a phase II RI/FS was recommended at Building 740C and Building 738 to develop remedial alternatives, to delineate the extent of contamination, to determine the source of contamination and potential pathways, and to evaluate metals in the ground water (US Navy 1996i).

IRP 15: Lots 642, 643, and 644 - Petroleum Based Products and Cleaning Solvent Storage. IRP 15 is located in the southern portion of FISCO and consists of three paved lots separated by a railroad spurs. These lots were used as a drum storage area for petroleum-based products and cleaning solvents. Materials included oils, hydraulic fluids, antifreeze, and to a lesser extent, dry cleaning solvents, malathion, and insulating oils. The pavement in this area has been stained due to minor spills and leaks from drums previously stored at this site (US Navy 1992b).

A soil gas survey was conducted at this site in the fall of 1990 as part of the SI. Twenty-five sample locations were selected, and VOCs were detected in the soil gas samples collected from several of the sampling locations. An additional fourteen soil borings were drilled, and soil and ground water samples were collected. Analytical results for the soil and ground water samples indicated detectable concentrations of petroleum hydrocarbons, VOCs, and SVOCs. No inorganic analytical data for soils were available for lots 642, 643, and 644 (US Navy 1992b).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of surface soils contaminated with petroleum compounds is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 21: Lot 645 - Open Storage Area. Lot 645 is located in the south central portion of FISCO. This area has been used to store large bulky ship parts, such as propellers, rudder components, and proper drive shafts. During the 1991 environmental assessment conducted at this site, field personnel noted a greenish gray sand (sand blasting grit) covering much of the surface in the western portion of the site. Based on surface soil sampling, this sand blasting grit was reported to contain elevated metal concentrations, and the soil in this area was removed under a RO in November 1994 (US Navy 1996h; US Navy 1996i).

Remedial Investigation Area III

Area 3 consists of IRP 18 (Building 534) and IRP 20 (Lot 532). A brief discussion of each site follows.

IRP 18: Building 534 - Paint Shop Accumulation Area. IRP 18 is located in the central portion of FISCO and consists of a building surrounded by a lot. This site was used for painting and sandblasting. Paint and solvents were stored in the lot adjacent to the building (US Navy 1992b). Currently, a phase II RI/FS is to be conducted at this site (US Navy 1996i).

IRP 20: Lot 532 - Former 90-Day Hazardous Waste Accumulation Area. IRP 20 is located in the central portion of FISCO and consists of an open area surrounding a shed. This site was reported to have been used as a 90-day accumulation area for hazardous waste (US Navy 1992b). Currently, a phase II RI/FS is to be conducted at this site (US Navy 1996i).

Miscellaneous IRP Sites

IRP 04: Lot 111: PCB Transformer Storage Area. IRP 04 is located in the northwestern portion of FISCO, and consists of a single building and concrete pad, which was used to store electrical equipment and some pesticides from 1942 until the 1980s. Since the 1980s, it has only been used to store new electrical transformers. Based on the analytical results from a composite soil sample collected at the site, pesticides and PCBs have been detected in the soil (US Navy 1992b).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of surface soils contaminated with PCBs is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 05: Building 431 - Hazardous Materials Classification. Building 431 is located in the central portion of FISCO and has been primarily used since 1985 to classify and temporarily store hazardous materials for up to 90 days. Hazardous materials handled at this site include combustible liquids, petroleum products, corrosives, oxidizers, peroxides, calcium, sodium nitrates, and lead paints. In addition to the handling of hazardous materials, dip tanks located in the eastern portion of the building were used for various metal processing operations, such as degreasing. Prior to 1985, this site was used as a general storage area. A limited scope expanded site inspection (ESI) has been proposed in the vicinity of the dip tanks at this site (US Navy 1992b).

IRP 17: Buildings 721, 722, 723, 731, 732, and 733 - Navy Resale Warehouse Buildings. IRP 17 is located in the eastern portion of FISCO, and consists of six buildings, which are used to store large quantities of various bulk goods for distribution to Navy exchange stores. Currently this site is being investigated for radiological contamination. Once the radiological assessment is completed, and assuming no contamination is discovered, this site will be designated as a no action site (US Navy 1996i).

IRP 19: Building 710 - The Public Works Center Maintenance Area. Building 710B is located in the northeastern portion of FISCO and is used as the PWC maintenance area for the operation of the storm drain system, heavy equipment storage, and office space. Hazardous materials or wastes generally are not stored or handled at this site; however, the surface in several areas of the site is stained with oil. In addition, floating oil was occasionally observed in the sewer and an old PCB spill was cleaned up at this site in the late 1970s. A limited scope ESI was conducted and the site was recommended for RO (US Navy 1992b; US Navy 1996i).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of surface soils contaminated with PCBs is scheduled to be completed in the summer of 1996 (US Navy 1996i).

Table L-4
FISCO Asbestos Containing Material Summary

Lease Area	Building	ACM
1	243	Yes, Non-Friable
1	343	Yes, Non-Friable
1	443	Yes, Non-Friable
1	543	Friable ACM Suspected
1	633	Yes, Non-Friable
1	642	ACM Not Suspected
1	649	Yes, Non-Friable
1	730	Yes, Non-Friable
1	Shed 443	ACM Not Suspected
2	741	Yes, Non-Friable
2	742	Friable ACM Suspected
2	746	Friable ACM Suspected
2	750	Yes, Non-Friable
2	754	Friable ACM Suspected
2	755	Yes, Non-Friable
2	834	Yes, Non-Friable
2	841	Yes, Non-Friable
2	842	Yes, Non-Friable
2	844	Friable ACM Suspected
2	845	Yes, Non-Friable
2	846	Yes, Non-Friable
2	848	Yes, Non-Friable
2	850	ACM Not Suspected
2	742A	Yes, Non-Friable
2	841A	Friable ACM Suspected
2	841B	Yes, Non-Friable
2	841C	Friable ACM Suspected
2	841G	ACM Not Suspected
2	841H	ACM Not Suspected
3	612	Yes, Non-Friable
3	700	ACM Not Suspected
3	710	Yes, Non-Friable
3	711	Yes, Non-Friable
3	712	Yes, Non-Friable
3	721	Yes, Non-Friable
3	722	Yes, Non-Friable
3	723	Yes, Non-Friable

Table L-4 *(continued)*
FISCO Asbestos Containing Material Summary

Lease Area	Building	ACM
3	724	Yes, Non-Friable
3	731	Yes, Non-Friable
3	732	Yes, Non-Friable
3	723	Yes, Non-Friable
3	724	Yes, Non-Friable
3	821	Yes, Non-Friable
3	831	Friable ACM Suspected
3	833	Yes, Non-Friable
3	612A	Yes, Non-Friable
3	612B	Yes, Non-Friable
3	612C	Yes, Non-Friable
3	612E	Yes, Non-Friable
3	612F	Yes, Non-Friable
3	612H	ACM Not Suspected
3	622A	ACM Not Suspected
3	710A	Yes, Non-Friable
3	710B	Yes, Non-Friable
3	712C	Yes, Non-Friable
3	733A	Yes, Non-Friable
3	733B	Yes, Non-Friable
4	111	ACM Not Suspected
4	113	Friable ACM Suspected
4	114	ACM Not Suspected
4	116	ACM Not Suspected
4	122	Yes, Non-Friable
4	123	Yes, Non-Friable
4	131	Friable ACM Suspected
4	141	Friable ACM Suspected
4	221	Friable ACM Suspected
4	222	Friable ACM Suspected
4	223	Friable ACM Suspected
4	320	Friable ACM Suspected
4	321	Yes, Non-Friable
4	322	Friable ACM Suspected
4	323	ACM Not Suspected
4	324	ACM Not Suspected
4	325	ACM Not Suspected
4	331	Yes, Non-Friable

Table L-4 *(continued)*
FISCO Asbestos Containing Material Summary

Lease Area	Building	ACM
4	332	Friable ACM Suspected
4	333	Yes, Non-Friable
4	341	Yes, Non-Friable
4	342	Yes, Non-Friable
4	421	Friable ACM Suspected
4	422	Yes, Non-Friable
4	431	Yes, Non-Friable
4	432	Yes, Non-Friable
4	433	Yes, Non-Friable
4	441	Yes, Non-Friable
4	442	Yes, Non-Friable
4	521	Friable ACM Suspected
4	522	Friable ACM Suspected
4	531	Yes, Non-Friable
4	532	Yes, Non-Friable
4	533	Yes, Non-Friable
4	534	ACM Not Suspected
4	541	Yes, Non-Friable
4	542	ACM Not Suspected
4	112E	ACM Not Suspected
4	122A	Yes, Non-Friable
4	342A	Yes, Non-Friable
4	441A	Yes, Non-Friable
4	441B	Yes, Non-Friable
4	522A	Yes, Non-Friable
4	532B	Yes, Non-Friable
4	533B	ACM Not Suspected
4	211	Yes, Non-Friable
4	212	Yes, Non-Friable
4	213	Yes, Non-Friable
4	310	Friable ACM Suspected
4	311	Friable ACM Suspected
4	312	Friable ACM Suspected
4	313	Friable ACM Suspected
4	405	Yes, Non-Friable
4	410	Yes, Non-Friable
4	412	Friable ACM Suspected
4	413	Yes, Non-Friable

Table L-4 *(continued)*
FISCO Asbestos Containing Material Summary

Lease Area	Building	ACM
4	500	Yes, Non-Friable
4	501	Yes, Non-Friable
4	502	Friable ACM Suspected
4	503	Yes, Non-Friable
4	504	Yes, Non-Friable
4	511	Friable ACM Suspected
4	512	Yes, Non-Friable
4	513	Yes, Non-Friable
4	311A	Yes, Non-Friable
4	412A	Yes, Non-Friable
4	505A	ACM Not Suspected
4	505B	ACM Not Suspected
4	511B	Yes, Non-Friable
4	511D	Yes, Non-Friable
4	511E	Yes, Non-Friable

Source: US Navy 1996h

Table L-5
FISCO Phase I RI Characterization Report
Summary of Sampling Activities
Area 1

Sampling Type	Number of Samples	Sampling Dates	Sample Method	Laboratory Location	Analysis
Soil Gas	28	03/06/94-03/08/94	Geoprobe	On Site	VOC
Surface Soil	1	03/05/94	Disposable Trowel	Off Site	VOC, SVOC, TRPH, Metals
Subsurface Soil	34	03/17/94-03/19/94	Geoprobe	On Site	Headspace VOCs(field screening)
Subsurface Soil	22	03/28/94-03/29/94	Geoprobe	Off Site	VOCs SVOC, TRPH, TOC, Metals
Subsurface Soil	36	06/16/94-06/21/94	Hollow Stem Auger	Off Site	VOC, SVOC, TRPH, TOC[1], Metals[2], TCLP[3], Physical Parameter[5]
Groundwater	5	04/07/94-04/08/94 (temporary wells)	Bailer/ Peristaltic Pump	Off Site	VOC, SVOC, TRPH, Metals (total and dissolved)
Groundwater	9	06/26/94-06/30/94	Bailer/ Peristaltic Pump	Off Site	VOC, SVOC, Metals (assorted), TRPH

[1]TOC analysis was performed on 12 soil samples
[2]Metals analysis included CLP analysis plus mercury
[3]TCLP analysis was performed on five soil samples
[4]Physical parameters testing was performed on eight samples and included density, porosity, grain size analysis, total organic carbon, and pH.

VOC = Volatile organic compounds
SVOC = Semivolatile organic compounds
TRPH = Total recoverable petroleum hydrocarbon

Source: US Navy 1996a

Table L-6
FISCO Phase I RI Characterization Report
Summary of Sampling Activities
Area 2

Sampling Type	Number of Samples	Sampling Dates	Sample Method	Laboratory Location	Analysis
Subsurface Soil	12	03/11/94- 03/12/94	Geoprobe	On Site	VOC Headspace
Subsurface Soil	27	03/14/94- 03/15/94	Geoprobe	Off Site	VOC, SVOC, TRPH, Metals
Subsurface Soil	27	06/13/94- 06/15/94	Hollow Stem Auger	On Site	VOC, SVOC, TRPH, TOC[1], Metals[2], TCLP[3], Physical Parameter[5]
Groundwater	12	06/23/94 06/24/94 06/28/94	Bailer/ Peristaltic Pump	Off Site	VOC, SVOC, TRPH, Metals (dissolved)

[1]TOC analysis was performed on six soil samples
[2]Metals analysis included CLP analysis plus mercury
[3]TCLP analysis was performed on five soil samples
[4]Physical parameters testing was performed on seven samples and included density, porosity, grain size analysis, total organic carbon, and pH.

VOC = Volatile organic compounds
SVOC = Semivolatile organic compounds
TRPH = Total recoverable petroleum hydrocarbon

Source: US Navy 1996a

Table L-7
FISCO Phase I RI Characterization Report
Summary of Sampling Activities
Basewide Investigation

Sampling Type	Number of Samples	Sampling Dates	Sample Method	Laboratory Location	Analysis
Subsurface Soil	27	03/16/94 03/17/94 03/19/94	Geoprobe	Off Site	CLP Metals
Subsurface Soil	29	03/31/94- 04/05/94	Hollow Stem Auger	Off Site	CLP Metals[1], TCLP[2]
Groundwater	14	04/13/94- 04/20/94	Bailer/ Peristaltic Pump	Off Site	Metals[3], TPH, TDS

[1]Metals analysis included mercury
[2]TCLP analysis was performed on six soil samples
[3] Metals analysis on groundwater included total and dissolved
CLP = Contact Laboratory Program
TCLP = Toxicity characteristic leaching procedure
TPH = Total petroleum hydrocarbon
TDS = Total dissolved solids

Source: US Navy 1996a

Table L-8
FISCO Phase I RI Characterization Report
Monitoring Well Construction Data
Area 1

Well Number	Date Drilled[1]	Well Depth (ft bgs)	Screened Interval (ft bgs)	Aquifer Monitored	Elevation (ft above MLLW)[2] Top of Casing	Elevation (ft above MLLW)[2] Ground Surface
A1-MW01	06/20/94	12.0	3.0-11.8	Shallow	15.51	13.54
A1-MW02	06/16/94	13.0	3.0-12.8	Shallow	15.23	13.46
A1-MW03	06/16/94	13.0	3.0-13.0	Shallow	13.18	13.35
A1-MW04	06/16/94	11.0	3.0-11.0	Shallow	13.23	13.45
A1-MW05	06/16/94	12.0	3.0-11.8	Shallow	13.96	14.26
A1-MW06	06/16/94	12.0	3.0-11.8	Shallow	15.42	13.50
A1-MW07	06/20/94	12.0	3.0-11.8	Shallow	15.77	13.76
A1-MW08	06/20/94	15.0	3.0-14.8	Shallow	13.51	13.97
A1-MW09	06/21/94	12.0	3.0-11.8	Shallow	15.32	13.34
A1-MW10	06/20/94	13.0	3.0-12.8	Shallow	15.38	13.39
A1-MW11	06/21/94	13.0	3.0-12.8	Shallow	14.67	12.75
A1-MW12	06/20/94	13.0	3.0-12.8	Shallow	14.80	12.90
Temporary Wells						
A1-MW02T	04/01/94	12.8	3.8-12.8	Shallow	14.96	13.65
A1-MW04T	03/29/94	11.7	1.7-11.7	Shallow	14.57	13.39
A1-MW06T	03/29/94	8.2	3.2-8.2	Shallow	15.60	13.41
A1-MW08T	03/29/94	12.7	2.7-12.7	Shallow	16.56	13.44
A1-MW09T	03/29/94	7.2	4.7-7.2	Shallow	15.97	13.18
A1-MW11T	04/01/94	10.2	0.5-10.2	Shallow	16.47	13.05

[1]All Area 2 monitoring wells were cased with 2-inch PVC piping
[2]MLLW - mean lower low water
Source: US Navy 1996a

Table L-9
FISCO Phase I RI Characterization Report
Monitoring Well Construction Data
Area 2

Well Number	Date Drilled[1]	Well Depth (ft bgs)	Screened Interval (ft bgs)	Aquifer Monitored	Elevation (ft above MLLW)[2] Top of Casing	Elevation (ft above MLLW)[2] Ground Surface
A2-MW01	06/15/94	8.3	3.0-8.1	Shallow	11.75	12.10
A2-MW02	06/15/94	15.0	5.0-14.8	Shallow	11.51	11.78
A2-MW03	06/15/94	13.0	3.0-13.0	Shallow	9.58	10.14
A2-MW04	06/14/94	13.0	3.0-13.0	Shallow	14.63	12.56
A2-MW05	06/14/94	13.0	3.0-13.0	Shallow	14.41	12.43
A2-MW06	06/15/94	9.5	3.0-9.3	Shallow	12.89	10.83
A2-MW07	06/13/94	11.6	3.0-10.8	Shallow	9.66	9.95
A2-MW08	06/13/94	8.5	3.0-8.5	Shallow	14.90	12.92
A2-MW09	06/15/94	10.0	3.0-9.8	Shallow	13.78	11.74

[1]All Area 2 monitoring wells were cased with 2-inch PVC piping
[2]MLLW - mean lower low water

Source: US Navy 1996a

Table L-10
FISCO Phase I RI Characterization Report
Monitoring Well Construction Data
Area 2

Well Number	Date Drilled[1]	Well Depth (ft bgs)	Screened Interval (ft bgs)	Aquifer Monitored	Elevation (ft above MLLW)[2] Top of Casing	Elevation (ft above MLLW)[2] Ground Surface
A3-MW01	09/19/94	10.0	4.0-10.0	Shallow	NA[3]	12.77
A3-MW02	09/19/94	17.0	12.0-17.0	Shallow	NA	11.95
A3-MW03	09/19/94	19.0	14.0-19.0	Shallow	NA	11.95
A3-MW04	09/20/94	8.0	3.0-8.0	Shallow	NA	12.99
A3-MW05	09/20/94	10.0	4.0-10.0	Shallow	NA	13.80
A3-MW06	09/20/94	8.0	3.0-8.0	Shallow	NA	12.51
A3-MW07	09/20/94	9.0	4.0-9.0	Shallow	NA	12.35
A3-MW08	09/20/94	10.0	4.0-10.0	Shallow	NA	13.50

[1]All Area 3 monitoring wells were cased with 2-inch PVC piping
[2]MLLW - mean lower low water
[3]NA - not available
Source: US Navy 1996a

Table L-11
Groundwater Elevations
UST Sites 211, 331N, 331S, 331E, 332, 334, 511D, 750, 842, and 845

Well ID	Total Depth (btoc)	Screened Interval (btoc)	Well Head Elev (toc-msl)	Date Measured	DTW (btoc)	WL Elev (msl)
UST Site 211						
211-MW1	14.2	4.0-13.0	13.43	1/24/95	4.84	8.59
211-MW2	14.8	4.5-13.5	12.85	1/24/95	4.16	8.69
211-MW3	14.8	3.5-12.5	13.09	1/24/95	4.25	8.84
UST Site 331N						
331N-MW1	14.3	4.0-14.0	112.00	8/17/95	4.59	107.41
				8/30/95	4.00	108.00
331N-MW2	14.5	4.0-14.5	111.47	8/17/95	4.16	107.31
				8/30/95	3.50	107.97
331N-MW3	14.6	4.1-14.1	111.82	8/17/95	4.32	107.50
				8/30/95	3.62	108.20
331N-HMW1	17.9	unknown	111.61	8/30/95	3.71	107.90
UST Site 331S						
331S-MW1	13.6	3.6-12.6	12.54	1/25/95	4.40	8.14
				8/18/95	4.50	8.04
331S-MW2	13.8	3.5-12.5	12.22	1/25/95	5.22	7.00
				8/18/95	5.65	6.57
331S-MW3	13.6	3.5-12.5	12.39	1/25/95	3.41	8.98
				8/18/95	3.17	9.22
UST Site 331E						
331E-MW1	14.0	3.5-12.5	12.49	1/26/95	4.48	8.01
				8/18/95	4.48	8.01
331E-MW2	14.6	3.5-12.5	12.60	1/26/95	4.62	7.98
				8/18/95	5.05	7.55
331E-MW3	14.2	3.5-12.5	12.62	1/26/95	5.00	7.62
				8/18/95	5.41	7.21
UST Site 332						
332-MW1	13.6	3.5-12.5	12.05	1/24/95	6.67	5.38
332-MW2	13.5	3.5-12.5	12.08	1/25/95	5.65	6.43
332-MW3	13.8	3.5-12.5	12.04	1/25/95	6.13	5.91
UST Site 334						
334-MW1	15.0	4.5-14.5	112.22	8/18/95	7.14	105.08
				8/31/95	7.19	105.03
334-MW2	14.3	3.8-13.8	111.68	8/18/95	7.41	104.27
				8/31/95	6.80	104.88
334-MW3	20.0	4.5-19.5	111.70	8/18/95	7.25	104.45
				8/31/95	6.74	104.96

Table L-11 *(continued)*
Groundwater Elevations
UST Sites 211, 331N, 331S, 331E, 332, 334, 511D, 750, 842, and 845

Well ID	Total Depth (btoc)	Screened Interval (btoc)	Well Head Elev (toc-msl)	Date Measured	DTW (btoc)	WL Elev (msl)
UST Site 511D						
511D-MW1	14.8	3.5-12.5	13.95	1/20/95	4.21	9.74
511D-MW2	15.0	3.5-12.5	12.49	1/20/95	3.11	9.38
511D-MW3	14.5	3.5-12.5	13.17	1/20/95	4.00	9.17
UST Site 750						
750-MW1	14.5	3.8-13.8	12.28	8/2/96	6.24	6.04
750-MW2	13.3	2.8-12.8	12.28	8/2/96	6.21	6.07
750-MW3	14.5	4.5-14.5	12.43	8/2/96	6.50	5.93
UST Site 842						
842-MW1	13.2	2.9-12.9	13.09	1/20/95 3/30/95	3.11 3.24	9.98 9.85
842-MW2	13.1	2.8-12.8	14.15	1/20/95 3/30/95	4.91 5.00	9.24 9.15
842-MW3	13.6	3.4-13.4	12.69	1/20/95 3/30/95	3.17 3.92	9.52 8.77
UST Site 845						
845-MW1	14.0	3.8-13.8	14.14	1/23/95 3/30/95	3.90 4.06	10.24 10.08
845-MW2	14.2	4.0-14.0	13.93	1/23/95 3/30/95	3.94 3.88	9.99 10.05
845-MW3	13.5	3.3-13.3	14.31	1/23/95 3/30/95	4.19 4.39	10.12 9.92

NOTES:
All measurements in feet.

KEY:
btoc - Below top of casing
toc = Top of casing
msl - Above mean sea level
DTW = Depth to water
WL = Water level

Source: ERM West Inc. 1996

Table L-12
FISCO Phase I RI Characterization Report
Monitoring Well Construction Data
Basewide Wells

Well Number	Date Drilled[1]	Well Depth (ft bgs)	Screened Interval (ft bgs)	Aquifer Monitored	Elevation (ft above MLLW)[2] Top of Casing	Elevation (ft above MLLW)[2] Ground Surface
BW-MW01	04/13/94	11.5	1.5-11.5	Shallow	15.93	13.77
BW-MW02	04/13/94	12.0	4.0-12.0	Shallow	15.01	13.05
BW-MW02	04/01/94	9.4	4.5-9.5	Shallow	15.10	13.35
BW-MW04	04/01/94	8.9	3.0-9.0	Shallow	15.31	13.35
BW-MW05	04/01/94	9.0	3.0-9.0	Shallow	14.10	12.15
BW-MW06	04/01/94	18.1	3.3-18.3	Shallow	11.54	11.99
BW-MW07	04/04/94	12.3	3.0-12.5	Shallow	14.43	12.47
BW-MW08	04/04/94	8.2	3.0-8.0	Shallow	15.37	13.16
BW-MW09	04/05/94	9.8	3.0-10.0	Shallow	13.81	12.09
BW-MW10	04/07/94	13.4	3.0-14.0	Shallow	14.48	12.68
BW-MW11	04/08/94	19.8	14.8-19.5	Deep	15.69	13.77
BW-MW12	04/08/94 04/11/94	25.4	15.0-25.0	Deep	14.70	12.70
BW-MW13	04/12/94	28.7	18.0-28.5	Deep	14.10	12.67
BW-MW14	04/12/94	24.8	14.5-24.5	Deep	15.38	13.37
BW-MW15[3]	04/13/94	25.9	15.0-25.0	Deep	15.35	13.44

[1]All Area 2 monitoring wells were cased with 2-inch PVC piping
[2]MLLW - mean lower low water
[3]Monitoring well BW-BW15 was destroyed in June 1994

Source: US Navy 1996a

Table L-13
Summary of PCB Sampling and Analysis Results for FISCO

LOCATION	SERIAL NUMBER	TYPE	SAMPLED	RESULTS
Building 310 Pen	C.O.-01	Liquid	4-18-93	8 ppm
Building 310 Pen	C.O.-02	Liquid	4-18-93	2 ppm
Building 310 Pen	C.O.-03	Liquid	4-18-93	9 ppm
Building 633	COS-148S01	Liquid	4-07-93	<1 ppm
Building 633	COS-148S01	Liquid	4-07-93	<1 ppm
Building 633	COS-148S03	Liquid	4-07-93	<1 ppm
Substation A	K6461229-304	Liquid	4-18-93	<1 ppm
Substation A	K6461229-305	Liquid	4-18-93	<1 ppm
Substation A	K6461229-301	Liquid	4-18-93	<1 ppm
Substation A	0159A7818-1	Liquid	4-18-93	<1 ppm
Building 123	75B3610	Dry	N/A	N/A
Building 141	A5373	Dry	N/A	N/A
Building 310	37401-001	Dry	N/A	N/A
Building 321	PQD-0282	Liquid	4-18-93	<1 ppm
Building 411	PRJ-0871	Liquid	4-18-93	<1 ppm
Building 422	G81E14475	Dry	N/A	N/A
Building 504	PVD-0313	Liquid	4-18-93	<1 ppm
Building 522	D6661-588	Dry	N/A	N/A
Building 542	PSA-0041	Liquid	4-21-93	<1 ppm
Lot 754	79A283052	Liquid	4-14-93	<1 ppm
Lot 754	83A170192	Liquid	4-14-93	<1 ppm
P-17A & B	83VLO37001	Liquid	4-18-93	<1 ppm
P-17A & B	83VLO37002	Liquid	4-18-93	<1 ppm
P-17A & B	83VLO37003	Liquid	4-18-93	<1 ppm
P-18A & B	83A020104	Liquid	4-18-93	<1 ppm
P-18A & B	83A020105	Liquid	4-18-93	<1 ppm
P-18A & B	83A020107	Liquid	4-18-93	<1 ppm
P-20D	85A123271	Liquid	4-18-93	<1 ppm
P-20D	85A130696	Liquid	4-18-93	<1 ppm
P-29A & B	83A020101	Liquid	4-18-93	<1 ppm
P-29A & B	83A020102	Liquid	4-18-93	<1 ppm
P-29A & B	83A020106	Liquid	4-18-93	<1 ppm
P-33	83A032145	Liquid	4-18-93	<1 ppm

Table L-13 *(continued)*
Summary of PCB Sampling and Analysis Results for FISCO

LOCATION	SERIAL NUMBER	TYPE	SAMPLED	RESULTS
P-33	83A032147	Liquid	4-18-93	<1 ppm
P-33	83A032149	Liquid	4-18-93	<1 ppm
P-46	83VLO36001	Liquid	4-18-93	<1 ppm
P-46	83VLO36002	Liquid	4-18-93	<1 ppm
P-46	83VLO36003	Liquid	4-18-93	<1 ppm
P-52	IZO6-481	Liquid	5-05-93	<1 ppm
P-52	IZO6482	Liquid	5-05-93	<1 ppm
P-52	IZO6483	Liquid	4-18-93	<1 ppm
P-69A	82A521676	Liquid	4-18-93	<1 ppm
P-69A	82A521674	Liquid	4-18-93	<1 ppm
P-69A	82A521675	Liquid	4-18-93	<1 ppm
P-7	LZ41584K74	Liquid	4-18-93	<1 ppm
P-84	86NLO11073	Liquid	4-18-93	<1 ppm
PIER 5s	01759-1	Dry	N/A	N/A
Removed B-754	886001169	Liquid	4-14-93	<1 ppm
Building 310 Pen	751-1981	Liquid	4-18-93	9 ppm
Building 844	X62-51221	Dry	N/A	N/A
Building 842	876011266	Liquid	4-22-93	<1 ppm
R. R. Weigh	83JB884024	Liquid	4-28-93	<1 ppm
Building 750	POE-0225	Liquid	4-21-93	<1 ppm
Building 141	14270-1	Liquid	4-22-93	11 ppm
Jst 534	R876011327	Liquid	4-22-93	<1 ppm
Building 312	886001434	Liquid	4-18-93	<1 ppm
Building 312	886001433	Liquid	4-18-93	<1 ppm
Building 310	886001491	Liquid	4-18-93	<1 ppm
Building 310 Pen	V89585	Dry	N/A	N/A
Building 642	83JA870088	Liquid	4-21-93	<1 ppm
Building 441A	83JA867089	Liquid	4-28-93	<1 ppm
Building 541	X228-51221	Dry	N/A	N/A
Building 533	43969	Dry	N/A	N/A
Building 532	43968-3	Dry	N/A	N/A
Building 531	43965-1	Dry	N/A	N/A
Building 441A	83JB875033	Liquid	4-13-93	<1 ppm

Table L-13 *(continued)*
Summary of PCB Sampling and Analysis Results for FISCO

LOCATION	SERIAL NUMBER	TYPE	SAMPLED	RESULTS
Building 712N	51221-2	Dry	N/A	N/A
Building 442	43967-1	Dry	N/A	N/A
Building 441	43967-2	Dry	N/A	N/A
Building 141	43965-2	Dry	N/A	N/A
Building 141	43968-1	Dry	N/A	N/A
Building 243	43965-3	Dry	N/A	N/A
Building 344	43966-4	Dry	N/A	N/A
Building 343	43968-4	Dry	N/A	N/A
Building 544	43966-1	Dry	N/A	N/A
Building 443	43966-3	Dry	N/A	N/A
Building 333	43968-2	Dry	N/A	N/A
Building 433	43966-2	Dry	N/A	N/A
Building 221	B-4513	Dry	N/A	N/A
Building 222	B-4510	Dry	N/A	N/A
Building 122	B-3672	Dry	N/A	N/A
Building 754	PQD-0285	Liquid	4-19-93	<1 ppm
N.M. PKL	PQD-0310	Liquid	4-19-93	<1 ppm
Building 122	B-3673	Dry	N/A	N/A
Building 113	PQC-0255	Liquid	3-31-93	<1 ppm
Building 113	PQC-0256	Liquid	3-31-93	<1 ppm
Building 213	B-3677	Dry	N/A	N/A
Building 320	PQB-0154	Liquid	4-18-93	<1 ppm
Building 211	PQD-0326	Liquid	4-18-93	<1 ppm
Building 311	57-10112	Liquid	4-18-93	<1 ppm
Building 311	PQJ-0857	Liquid	4-18-93	<1 ppm
Building 410	84JM331190	Liquid	4-18-93	<1 ppm
Building 502	PQD-0324	Liquid	4-18-93	<1 ppm
Building 505	PQD-0266	Liquid	4-18-93	<1 ppm
Building 511	B-3700	Dry	N/A	N/A
Building 311	B-3528	Dry	N/A	N/A
Building 311	B-3581	Dry	N/A	N/A
Building 312	PQC-0169	Liquid	4-27-93	<1 ppm
Building 311	B-3533	Dry	N/A	N/A

Table L-13 *(continued)*
Summary of PCB Sampling and Analysis Results for FISCO

LOCATION	SERIAL NUMBER	TYPE	SAMPLED	RESULTS
Building 311	B-3532	Dry	N/A	N/A
Building 513	B-3678	Dry	N/A	N/A
Building 521	PQC-0257	R-Temp	4-22-93	<1 ppm
Building 413	B-3434	Dry	N/A	N/A
Building 412	B-3524	Dry	N/A	N/A
Building 313	B-3523	Dry	N/A	N/A
Building 313	B-3527	Dry	N/A	N/A
Building 422	PML-1194	Liquid	4-22-93	<1 ppm
Building 112	UNK (x-467)	Liquid	4-07-93	<1 ppm
Building 212	B-3676	Dry	N/A	N/A
Building 322	PQD-0323	Liquid	4-18-93	<1 ppm
Building 331	B-3525	Dry	N/A	N/A
Building 131	PQB-0160	Liquid	4-22-93	<1 ppm
Building 131	PQB-0144	Liquid	3-30-93	<1 ppm
Building 131	PQD-0301	Liquid	4-22-93	<1 ppm
Building 332	B-4476	Dry	N/A	N/A
Building 421	B-3517	Dry	N/A	N/A
Building 421	B-3699	Dry	N/A	N/A
Building 431	B-3433	Dry	N/A	N/A
Building 522	B-3436	Dry	N/A	N/A
Building 612	B-4514	Dry	N/A	N/A
Building 633	83A040026	Liquid	4-07-93	<1 ppm
Building 633	83A040027	Liquid	4-07-93	<1 ppm
Building 633	83A040028	Liquid	4-07-93	<1 ppm
Building 223	X290040	R-Temp	4-19-93	<1 ppm
Berth B-1	X290039	Liquid	4-18-93	<1 ppm
N.M. PKL	X290048	R-Temp	4-18-93	<1 ppm

Source: US Navy 1996h

Table L-14
Summary of FISCO Radiological Materials Handling

Lease Area	Parcel	Records Indicate Storage	Interviews or V/P Inspection Suggests Staging or Other Interim Use	RCS Status
1	444	X		Building demolished. RASO has determined that no follow-up radiological survey work is warranted at the site.
1	742	X		RCS completed, no evidence of release identified.
2	841	X		US NRC released the area for unrestricted use based on the results of a confirmatory survey. RASO has determined that an additional RCS is not necessary.
3	733	X		RCS completed, no evidence of release identified.
3	831	X		RCS pending removal of radiological materials.
4	113	X		RCS underway.
4	331		X	No RCS planned, no storage areas have been identified.
4	332	X	X	RCS underway.
4	333		X	No RCS planned, no storage areas have been identified.
4	341		X	No RCS planned, no storage areas have been identified.

Table L-14 *(continued)*
Summary of FISCO Radiological Materials Handling

Lease Area	Parcel	Records Indicate Storage	Interviews or V/P Inspection Suggests Staging or Other Interim Use	RCS Status
4	421	X		RCS underway.
4	433		X	No RCS planned, no storage areas have been identified.
4	521		X	No RCS planned, no storage areas have been identified.
5	211	X		RCS underway.
5	212	X		RCS underway.
5	310	X		RCS underway.
5	312	X		RCS underway.
5	313	X		RCS underway.
5	412	X		RCS underway.

Source: US Navy 1996i

Table L-15
FISCO Ordnance Summary

Lease Area	Parcel	Ordnance Material or Operations
2	742	Special weapons shop operations.
4	113	Small arms ammunition storage, indoor firing range.
4	332	Staging of ordnance for shipment.
5	212	Demobilized bombs and missile casings.
5	310	Ammunition and explosives storage.
5	412	Ammunition storage magazine.

Source: US Navy 1996i

Table L-16
Oakland Army Base PCB/Transformers

BRAC Parcel	Building	Transformers	Serial Number	Comments (PCB Sampling Data)
1	MH 18	2	87-512698 N5088	Sampling data not available Sampling data not available
2	161	1	87-51269B	Removed 1988
3	H3 PP6002 141 148	1 3 2	8639 * 87-105-02 86-50907-B	Sampling data not available Sampling data not available Sampling data not available Sampling data not available
4				None present
5	PP3406	1	*	Sampling data not available
6	905	1	87-51159	Sampling data not available
7				None present
8				None present
9	1 6	2 1	90527-1 W208092 8600791-1	Sampling data not available Sampling data not available Sampling data not available
10	PP2700	3	GE718605566K GE718606566K GE719683566K	1.1 ppm 1.3 ppm 7.5 ppm
11	808 812	3 2	* 6902416 6902382	12 ppm 13 ppm 18 ppm
12	806	3	*	17 ppm 22 ppm 15 ppm
13	PP3814 PP2104	3 3	* * 6485279	12 ppm 13 ppm 18 ppm
14				None present
15	PP1116	1	*	34 ppm
16	PP1002 PP4001	1 1	6895231 *	Sampling data not available
17	PP1011	3	7092857 7092859 7092861	570 ppm 840 ppm 810 ppm
18	762	4	68A8719 69AL15915 88A063738 69AJ1209	35 ppm <1 ppm 3 ppm <1 ppm
19	PP1003 780 793	1 3 1	84-5-21 90A213663 90A220722 90A220723 88-1-29616	12 ppm Sampling data not available for remaining equipment in Study Area

Table L-16 *(continued)*
Oakland Army Base PCB/Transformers

20	740	1	81J0419202	Sampling data not available
21	PP5105 PP5202	2 1	*, 12814352 *	2.5 ppm 13 ppm
22	PP5613 660	1 1	G575341-65K H317921-70-P	28 ppm Sampling data not available
23	640 640 (New Installs)	1 2	73296 73296 87-51269A	66 ppm Scheduled for removal <1 ppm <1 ppm
24	PP5202 647 PP5302	1 1	* 6897774	7.9 ppm 250 ppm
25	590	2	756772 X63210	110 ppm Dry
26	None Present			

* Serial number is unreadable for data source.

Note: Some data gaps in the PCB inventory and past removal, retrofill, and remediation response actions are anticipated for Oakland Army Base

Source: US Army Corps of Engineers 1996

Table L-17
Oakland Army Base Asbestos

BRAC Parcel	Facility Number	Square Feet	Year Constructed	Asbestos Containing Material Information
2	161	79,152	1942	P7 Transit Shed - vinyl floor tiles in northwest offices on first floor, woven paper/tape on duct system over northwest offices
7	916	1,218	1942	AIS Office - vinyl floor tiles throughout building
8	991	3,476	1942	RR Engine Ship - cementitious siding on exterior walls was not sampled but assumed to contain asbestos
9	1	161,983	1942	Office Headquarters - vinyl floor tiles throughout building, pipe covering behind walls, perimeter hard wall plaster. Cementitious exhaust pipe in janitor's closet on first floor of Wing 2 not sampled, but assumed to contain asbestos
9	4	4,600	1942	POV - vinyl 9" x 9" floor tiles throughout building
9	6	16,128	1966	Communication/ADP - vinyl 9" x 9" floor tiles throughout building, acoustical tiles in Room 7A, pipe covering above ceiling in mechanical room
10	60	13,256	1942	Cafeteria - vinyl flooring throughout building, pipe covering and mudded joint packages on attic hot water lines
10	70	6,715	1952	Military Police - vinyl 9" x 9" and 1' x1' floor tiles throughout building
10	85	9,597	1941	Print Plant - vinyl floor tiles throughout building
10	88	11,134	1919	Storage/Forms - vinyl floor tiles, raw asbestos material, pipe covering, linoleum
10	90	10,556	1941	AV Safety Mort. - vinyl 9" x 9" floor tiles throughout building, linoleum at entrance to projector room
10	99	29,624	1918	AAFES Warehouse - vinyl floor tiles throughout building
11	808	235,040	1942	Warehouse 808 - vinyl floor tiles in the office are on the mezzanine
11	812	18,345	1944	Vehicle Maintenance Shop - mudded joint packings and woven paper/tape on breaching in mechanical room, mudded joint packings along north wall between offices, pipe coverings in upstairs storeroom, vinyl floor tiles in offices and locker room. Cementitious siding in room off main office, room at east end of ship and along perimeter walls, and cementitious pipe at west end of building were not sampled but assumed to contain asbestos.
11	821	20,000	1943	Storage - roofing material. Cementitious piping above heaters in east half of building were not sampled but assumed too contain asbestos

Table L-17 *(continued)*
Oakland Army Base Asbestos

11	823	20,000	1942	Box and Crate Shop - nonfriable materials assumed asbestos containing were cementitious siding and piping on west side of men's restroom
12	806	233,640	1942	MOTBA Warehouse 806 - vinyl floor tiles at north side of offices at east end of building
12	807	233,640	1942	MOTBA Warehouse 807 - vinyl floor tiles in north side offices. Cementitious pipe off all space heaters and throughout two east wings of building were not sampled but assumed to contain asbestos.
13	804	233,640	1941	Warehouse 804 - vinyl floor tiles in mortuary office. Non-friable asbestos includes cementitious panels behind east office gas heater, cementitious pipe in northwest corner, and fire doors throughout building
13	805	233,640	1942	Warehouse 805 - vinyl floor tiles in office along west wall, northwest corner women's restroom. Cementitious piping along north and west sides were not sampled but assumed to contain asbestos
14	802	233,640	1941	Warehouse 802 - vinyl floor tiles in women's restroom, southwest corner of Bay 5, northwest corner of office, and employees break room. Cementitious piping in officer and fire doors were not sampled but assumed to contain asbestos
14	803	233,640	1941	AAFES Warehouse - vinyl floor tiles in women's restroom, southwest corner of Bay 5, northwest corner of office, and employee break room. Cementitious piping in offices and fire doors were not sampled but assumed to contain asbestos.
16	830	2,401	1957	Autocraft Shop- pipe covering and mudded joint packings on domestic water and exhaust lines along north wall
16	833	6,052	1942	AFGE Union Hall - vinyl floor tiles on main level. Cementitious siding on exterior of building was not sampled but assumed to contain asbestos
16	834	1,209	1981	Motor Pool Dispatch - vinyl floor tiles throughout building
17	840	4,912	1951	Paint Shop - Cemetitious piping in paint shop and cementitious siding around restroom were not sampled but assumed to contain asbestos
18	762	13,638	1965	Dispensary - vinyl floor tiles throughout the building
19	780	39,818	1955	Barracks - vinyl floor tiles throughout the building
19	796	45,951	1951	PWC Building - boiler/tank insulation, pipe covering with associated mudded joint packings, wrapped cardboard/paper pipe covering and associated mudded joint packings, vinyl floor tiles in first floor janitor's room, Room 305, and annex

Table L-17 *(continued)*
Oakland Army Base Asbestos

20	701	3,796	1942	Chapel - acoustical/thermal insulation on first, second, and third pillars along south wall
20	726	14,175	1957	Community Center Library - vinyl tiles throughout building, pipe covering and associated mudded joint packings
20	738	7,225	1967	Craft Shop - vinyl floor tiles, hard wall plaster, acoustical tile, wrapped cardboard/paper pipe covering, mudded joint packings
20	740	12,053	1968	Bowling Center - vinyl floor tiles in spectator seating area, between lanes, in the office, and in the concession area
22	650	35,044	1966	Guest House Hotel - vinyl floor tiles throughout the building, mudded joint packings associated with nonsuspect pipe covering on water lines
22	660	10,508	1971	Theater - vinyl floor tiles throughout the building, mudded joint packings associated with pipe coverings in mechanical room, breaching insulation in mechanical room
23	640	332,844	1945	AAFES Warehouse - vinyl floor tiles throughout building, pipe covering and mudded joint packings, corrugated pipe covering on water lines of women's restroom of executive office
23	641	17,772	1942	Package Store, etc. - vinyl floor tiles at south and west ends of building
24	645	2,778	1942	Officers Family Housing - vinyl floor tiles in southeast end of break room
24	646	15,000	1942	Storage Family Housing - 1' x 1' and 9" x 9" vinyl floor tiles in abandoned offices at southwest corner
24	647	8,800	1942	Child Development and Chapel Annex - vinyl floor tiles throughout the building
24	690	12,586	1956	BEQ HQ Detach - vinyl floor tiles throughout building, wrapped cardboard/paper pipe covering and associated mudded joint packings on steam lines in first floor bathroom
25	590	363,543	1944	AAFES Warehouse - vinyl floor tiles throughout parts of the building, pipe coverings and associated mudded joint packings on steam system outside boiler room, mudded joint packings associated with dairy cooler supply lines, tank insulation and mudded joint packings on abandoned hot water system

Source: US Army Corps of Engineers 1996

Table L-18
Oakland Army Base Oil/Water Separators

Oil/Water Separators	Location	Current Status of Use
OWS 1	Building 991, Railroad Roundhouse	Out of service
OWS 2	Building 812	Service 1302nd heavy duty vehicles
OWS 3	North side of POV lot	Clean POVs moved by the 1302nd
OWS 4	Building 99	Service AAFES vehicles
OWS 5	Building 828	Out of service
OWS 6	Building 832	Service garrison vehicles
OWS 7	Building 830	Service garrison POVs
OWS 8	Building 843	Out of service
OWS 9	Building 843	Out of service

Source: US Army Corps of Engineers 1996

Table L-19
Oakland Army Base Aboveground Storage Tanks

BRAC Parcel	Location (Building)	Year Installed	Capacity (gallons)	Tank Material	Substance Stored	Use/Status
4	SW corner of POV loading dock	Not known	550	Not known	Unleaded gas	Active
8	NW of Building 991	Not known	10,000	Steel	Diesel	Active; replaces old UST
10	Building 99	Not known	Not known	Not known	Waste oil	Removed
16	North of Building 830	Not known	550	Not known	Waste oil	Active
16	West of Building 844	1994	10,000	Steel	Diesel	Active; replaces old UST
19	East of Building 780	Not known	550	Not known	Diesel	Active

Source: US Army Corps of Engineers 1996

Table L-20
Oakland Army Base Underground Storage Tanks

Tank Number	BRAC Parcel	Location (Building)	Year Installed	Capacity (gallons)	Tank Material	Substance Stored	Use/Status	Regulatory Status	Future Actions[1]
Original Underground Storage Tanks									
Tank 1 (old)	9	Building 1	1942	1,000	Bare steel	Fuel oil	Fueled Building 1 backup generator. Replaced by new Tank 1.	Removed 1990	1
Tank 2 (old)	9	Between Buildings 1 and 6	1966	550	Bare steel	Diesel	Fueled Building 6 backup generator. Replaced by new Tank 2.	Removed 1990	1
Tank 3 (old)	2	North of Building 161	1942	250	Bare steel	Fuel oil	Fuel source for Building 161 (Wharf 7)	Removed 1990	1
Tank 4 (old)	16	East of Building 833	1957	10,000	Bare steel	Gasoline	Fuel source for base motor pool. Replaced by new tank 3.	Removed 1990	2
Tank 5 (old)	16	East of Building 833	1957	10,000	Bare steel	Gasoline	Fuel source for base motor pool. Replaced by new tank 4.	Removed 1990	2
Tank 6 (old)	8	Northwest of Building 991	1982	10,000	Not known	Diesel	Fuel source for base locomotive. Replaced by new tank 5.	Removed 1994	2
Tank 7 (old)	11	Northeast of Building 812	Not known	550	Bare steel	Waste oil	Serviced Building 812 wash rack.	Removed 1990	2
Tank 8 (old)	11	Northeast of Building 812	1981	550	Bare steel	Waste oil	Serviced Building 812 wash rack. Replaced by new Tank 6.	Removed 1990	2

Table L-20 *(continued)*
Oakland Army Base Underground Storage Tanks

Tank 9 (old)	12	Near Building 807	1981	2,000	Fiberglass	Gasoline	Fuel source for base motor pool.	Removed 1994	3
Tank 10 (old)	16	West of Building 844	1981	10,000	Not known	Diesel	Fuel source for base motor pool. Replaced by new Tank 7.	Removed 1990	3
Tank 11 (old)	16	West of Building 828	1969	5,000	Bare steel	Gasoline	Used Building 828 gas station. Replaced by new Tank 8.	Removed 1990	4
Tank 12 (old)	16	West of Building 828	1969	5,000	Bare steel	Gasoline	Used Building 828 gas station. Replaced by new Tank 9.	Removed 1990	4
Tank 13 (old)	16	West of Building 828	1969	5,000	Bare steel	Gasoline	Used Building 828 gas station. Replaced by new Tank 10.	Removed 1990	4
Tank 14 (old)	16	South of Building 828	1969	550	Bare steel	Waste oil	Used Building 828 gas station. Replaced by new Tank 11.	Removed 1990	1
Tank 15 (old)	25	South of Building 590	1944	12,500	Bare steel	Fuel oil	Building 590 fuel source	Removed 1990	2
Tank 16 (old)	19	South of Building 780	1955	6,000	Bare steel	Fuel oil	Building 780 fuel source	Removed 1990	1
Tank 17 (old)	19	East of Building 793	1954	8,000	Bare steel	Fuel oil	Building 793 fuel source	Removed 1990	1
Tank 18 (old)	16	Southeast of Building 830	1957	500	Not known	Waste oil	Used at Building 830 Auto Craft Shop	Removed 1992	1

Table L-20 *(continued)*
Oakland Army Base Underground Storage Tanks

Tank 19 (old)	9	North of Building 5	1982	500	Fiberglass	Waste liquid	Collected waste liquid from Building 5 floor drain. Renumbered to Tank 12.	Active	
Tank 20 (old)	9	Northeast of Building 6	1986	2,000	Fiberglass	Diesel	Renumbered to Tank 13.	Active	
Tank 21 (old)	4	North of Building 14	1986	550	Fiberglass	Waste oil	Renumbered to Tank 14.	Active	
Removed Underground Storage Tanks									
Tank A (old)	11	Northwest of Building 823	Not known	1,000	Bare steel	Fuel oil	Served Building 823.	Removed 1990	2
Tank B (old)	10	West of Building 99	Not known	1,000	Bare steel	Gasoline	Served Building 99.	Removed 1990	2
Tank C (old)	10	West of Building 99	Not known	1,000	Bare steel	Gasoline	Served Building 99.	Removed 1990	2
Tank D (old)	20	Northeast of Building 726	Not known	1,000	Bare steel	Fuel oil	Served Buildings 726 and 738.	Removed 1990	5
Tank E (old)	19	Near Buildings 780 and 772	Not known	1,000	Not known	Not known	Served Buildings 780 and 772.	Removed	6
Tank F (old)	20	North of Building 701	Not known	500	Not known; fuel oil suspected	Not known; fuel oil suspected	Served Building 701 (Chapel).	Removed 1990	5
Tank G (old)	20	Building 726	Not known	500	Not known	Not known	Served Building 726.	Removed	6
Tank H (old)	20 (?)	Building 734	Not known	1,000	Not known	Not known	Served Building 734.	Removed	6
Tank I (old)	21	Building 737	Not known	1,000	Not known	Not known	Served Building 737.	Removed	6

Table L-20 *(continued)*
Oakland Army Base Underground Storage Tanks

Tank J (old)	22	Building 66	Not known	Not known	Not known	Not known	Served Building 660 (Theater).	Removed	6
Tank K (old)	24	Building 645	Not known	500	Not known	Not known	Served Building 645.	Removed	6
Tank L (old)	24	Building 690	Not known	2,500	Not known	Not known	Served Building 690.	Removed	6
Tank M (old)	13	East of Building 805	1968	1,000	Bare steel	Gasoline	Served Building 805.	Removed 1990	2
Tank N (old)	16	Building 835	1957	500	Not known	Waste oil	Served Building 835.	Removed	1
Tank O (old)	8	Near Building 991	1956	7,500		Diesel	Served Buildings 991. Decommissioned and filled with sand in 1982.	Removed 1994	5
Tank P (old)	8	Near Building 991	1956	2,000		Diesel	Served Buildings 991. Decommissioned and filled with sand in 1982.	Removed 1994	5
Tank Q (old)	10	West of Building 99	1956	1,000	Bare steel	Gasoline	Served Building 99.	Removed 1990	2
New (Permitted) Underground Storage Tanks									
Tank 1	9	Building 1	1990	1,000	Fiberglass	Diesel	Fuel source for Building 1 backup generator. Replaced by old Tank 1.	Active	
Tank 2	9	Between Buildings 1 and 6	1990	550	Fiberglass	Diesel	Fuel source for Building 6 backup generator. Replaced by old Tank 2.	Active	

Table L-20 *(continued)*
Oakland Army Base Underground Storage Tanks

Tank 3	16	East of Building 832	1990	10,000	Fiberglass	Unleaded gasoline	Fuel source for Building 834 motor pool. Replaced by old Tank 4.	Active	
Tank 4	16	East of Building 832	1990	10,000	Fiberglass	Unleaded gasoline	Fuel source for Building 834 motor pool. Replaced by old Tank 5.	Active	
Tank 5	8	Northwest of Building 991	1982	10,000	Not known	Diesel	Served Building 991. In 1990, replaced old Tank 6. In 1994 replaced with an AST.	Removed 1994	3
Tank 6	11	Southwest of Building 812	1990	550	Fiberglass	Waste oil	Serves Building 812. Replaced old Tank 8. Scheduled for removal.	Active	7
Tank 7	16	In motor pool area near Building 844	1986	10,000	Fiberglass	Diesel	Served AAFES. In 1990, replaced old Tank 10. In 1994, replaced with an AST.	Removed 1994	3
Tank 8	16	West of Building 828	1990	6,000	Fiberglass	Unleaded gasoline	Serves Building 828. Replaced old Tank 11.	Active	Not known
Tank 9	16	West of Building 828	1990	6,000	Fiberglass	Unleaded gasoline	Serves Building 828. Replaced old Tank 12.	Active	Not known
Tank 10	16	West of Building 828	1990	6,000	Fiberglass	Unleaded gasoline	Serves Building 828. Replaced old Tank 13.	Active	7

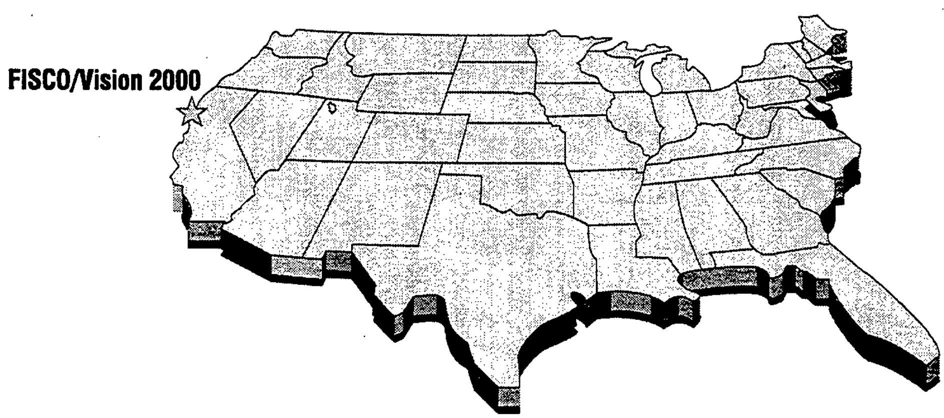
Table L-20 *(continued)*
Oakland Army Base Underground Storage Tanks

Tank 11	16	East of Building 828	1990	550	Fiberglass	Waste oil	Replaced old Tank 14.	Active	7
Tank 12*	9	Northwest of Building 5	1982	500	Fiberglass	Waste liquid	Received liquid waste from Building 5 floor drain. Not in use. Renumbered from Tank 19.	Inactive	7
Tank 13	9	Northeast of Building 6	1986	2,000	Fiberglass	Diesel	Fuel source for Building 5 backup generator. Renumbered from Tank 20.	Active	7
Tank 14	4	North of Building 14	1986	500	Fiberglass	Waste oil	Serves Building 4 wash rack. Renumbered from Tank 21.	Active	7

* Identified as Number 12 in UST Monitoring Plan, Number 13 on UST permit.

Future Actions:
1 = Petitioned for closure
2 = Baseline risk assessment
3 = Status unclear
4 = Groundwater monitoring and closure
5 = Additional investigation
6 = Initial site characterization
7 = Removal

Source: US Army Corps of Engineers 1996



APPENDIX M
AIR QUALITY MODELING

Appendix M
Air Quality Modeling

M.1. Introduction

Technical discussion of air pollution issues requires an understanding of terms that have a technical meaning. It is especially important to understand the distinction between air pollutant emissions and ambient air quality. The term "pollutant emissions" refers to the amount (usually stated as a weight) of one or more specific compounds introduced into the atmosphere by a source or group of sources.

In practice, most pollutant emissions data are presented as "emission rates": the amount of pollutants emitted during a specified increment of time or during a specified increment of emission source activity. Typical measurement units for emission rates on a time basis include pounds per hour, pounds per day, or tons per year. Typical measurement units for emission rates on a source activity basis include pounds per thousand gallons of fuel burned, pounds per ton of material processed, and grams per vehicle mile of travel.

The term "ambient air quality" refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) actually experienced at a particular geographic location that may be some distance from the source of the relevant pollutant emissions. The ambient air quality levels actually measured at a particular location are determined by the interactions among three groups of factors:

- emissions: the types, amounts, and locations of pollutants emitted into the atmosphere;
- meteorology: the physical processes affecting the distribution, dilution, and removal of these pollutants; and
- chemistry: any chemical reactions that transform pollutant emissions into other chemical substances.

Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter of air) or as a volume fraction (e.g., parts per million by volume).

Air pollutants are often characterized as being "primary" or "secondary" pollutants. Primary pollutants are those emitted directly into the atmosphere (such as carbon monoxide, sulfur dioxide, lead particulates, and hydrogen sulfide). Secondary pollutants are those (such as ozone, nitrogen dioxide, and sulfate particles) formed through chemical reactions in the atmosphere; these chemical reactions usually involve primary pollutants, normal constituents of the atmosphere, and other secondary pollutants.

Those compounds which react to form secondary pollutants are often referred to as reactive pollutants, pollutant precursors, or precursor emission products. Some air pollutants (such as many organic gases and suspended particulate matter) are a combination of primary and secondary pollutants.

The distinction between primary and secondary pollutants is more than a matter of semantics; important air quality management implications are also involved. The ambient concentration of primary pollutants depends on the spatial concentration of the emission sources, the rate of pollutant emissions, and the degree to which the emitted pollutants are dispersed or removed from the atmosphere between the emission source and the location of interest.

Air quality problems involving primary pollutants (such as carbon monoxide) can usually be traced to a single pollutant source or a concentrated group of sources emitting large quantities of the pollutant. Additionally, the responsible emission source will usually be relatively close to the location of the air quality problem. The distance between the emission source and the location of a ground-level air quality problem depends largely on the height at which the emissions are released into the atmosphere.

When an air quality problem involves a secondary pollutant (such as ozone), the spatial relationship between emission sources and ambient air quality problems becomes much more complicated. Because secondary pollutants are not emitted directly into the atmosphere, observed ambient concentrations may not show a clear correlation with the spatial distribution of sources emitting the pollutant precursors. The time factor involved in the chemical reactions producing secondary pollutants allows emissions from numerous sources to become dispersed and mixed together. As a result, the observed ambient pollutant concentrations are due as much to the cumulative areawide emissions of precursors as to the spatial concentration of emission sources.

Two types of air quality analyses have been used in this EIS/EIR to quantify potential air quality impacts: dispersion modeling analyses to evaluate potential carbon monoxide concentrations, and emissions estimates to evaluate the significance of other pollutant emissions from vehicle traffic, locomotives, and cargo ships. Dispersion modeling and emission estimates for vehicle traffic both depend on the use of vehicle emission rates derived from the EMFAC7F vehicle emission rate model. However, emission rates for use in a dispersion modeling analysis are generated using different assumptions than those used for estimating regional emission quantities.

Emission rates for dispersion modeling analyses represent point estimates of vehicle operating conditions, while those used for ozone precursor evaluations reflect

cumulative patterns of vehicle conditions over an entire trip. The following sections discuss the specific procedures used for the dispersion modeling and ozone precursor analyses.

M.2. Carbon Monoxide Dispersion Modeling Procedures

Predicting the ambient air quality impacts of pollutant emissions requires consideration of the transport, dispersion, chemical transformation, and removal processes which affect pollutant emissions after their release from a source. Gaussian dispersion models are frequently used for such analyses. The term "gaussian dispersion" refers to a general type of mathematical equation used to describe the horizontal and vertical distribution of pollutants downwind from an emission source.

Gaussian dispersion models treat pollutant emissions as being carried downwind in a defined plume, subject to horizontal and vertical mixing with the surrounding atmosphere. The plume spreads horizontally and vertically with a reduction in pollutant concentrations as it travels downwind. Mixing with the surrounding atmosphere is greatest at the edge of the plume, resulting in lower pollutant concentrations outward (horizontally and vertically) from the center of the plume. This decrease in concentration outward from the center of the plume is treated as following a gaussian ("normal") statistical distribution. Horizontal and vertical mixing generally occur at different rates. Because turbulent motions in the atmosphere occur on a variety of spatial and time scales, vertical and horizontal mixing also vary with distance downwind from the emission source.

Dispersion models calculate pollutant concentrations at particular locations ("receptors" in modeling jargon) by applying appropriate horizontal and vertical dispersion factor equations to the initial pollutant concentration. The proper dispersion factor equations are determined from the spatial position of the receptor relative to the emission source location and the centerline of the pollutant plume extending downwind from the emission source.

When more than one emission source affects a particular receptor location, the total pollutant concentration at the receptor is the sum to the individual pollutant increments contributed by each emission source.

The reference to "pollution plumes" implies an analogy to physically mixing fluids (air in this case) with different pollutant concentrations. That would seem to suggest that the pollution concentration at a given location would be the average, not the sum, of the incremental concentrations from each overlapping plume. Despite the use of "pollution plume" terminology, the fluid mixing analogy is inappropriate in the context of atmospheric dispersion models.

The flaw in the fluid mixing analogy involves the total volume of fluid present as additional emission source contributions are added. The volume of "carrier fluid" (air) at a receptor point remains constant regardless of the number of overlapping pollution plumes affecting the site.

The faulty fluid mixing analogy can be visualized as pouring buckets of water with different salt concentrations into an empty swimming pool. The resulting pollutant (salt) concentration is the weighted average of the concentrations in the incremental

additions of salty water. The actual situation with atmospheric dispersion modeling is more like pouring different sized jars of salt into a swimming pool already filled with water. The resulting pollutant (salt) concentration is the sum of the effects of the incremental additions of salt.

In more technical terms, atmospheric dispersion models operate by simulating the spatial distribution of pollutant molecules, rather than simulating the mixing of fluids per se. The pollution plume terminology that leads to confusion is, however, too thoroughly ingrained in the modeling literature to change.

Dispersion modeling analyses for this EIS/EIR used the CALINE4 dispersion model and vehicle emission rates derived from the California Air Resources Board's EMFAC7F vehicle emission rate model.

M.2.1. The CALINE4 Model

CALINE4 (Benson, 1989) is a gaussian dispersion model developed by the California Department of Transportation to evaluate ambient air quality conditions near highways. Modeled highway links are analyzed in the model as a sequence of short segments. Each segment of a highway link is treated as a separate emission source producing a plume of pollutants which disperses downwind. Pollutant concentrations at any specific location are calculated as the total contribution from overlapping pollution plumes originating from the sequence of roadway segments.

The CALINE4 model employs a "mixing cell" approach to estimating pollutant concentrations over the roadway itself. Vertical dispersion of pollutants above the roadway is assumed to be dominated by mechanical turbulence from moving vehicles and convective mixing due to the temperature of vehicle exhaust gases. In this situation, the vertical limit of mixing (i.e., the height of the mixing cell) becomes a function of pollutant residence time within the mixing cell. Residence time depends on mixing cell width, wind angle relative to the mixing cell, and wind speed. The width of the mixing cell over each roadway segment is based on the width of the traffic lanes of the highway plus an additional vehicle-induced turbulence zone on either side. Parking lanes and roadway shoulders are not counted as traffic lanes.

The CALINE4 model computes an initial vertical dispersion parameter to characterize the vertical profile of pollutant concentrations over the roadway. Pollutant concentrations downwind from the mixing cell are then calculated using horizontal and vertical dispersion rates which are a function of various meteorological and ground surface conditions.

When winds are essentially parallel to a highway link, pollution plumes from all roadway segments overlap. This produces high concentrations near the roadway (near the center of the overlapping pollution plumes), and low concentrations well away from the highway (at the edges of the overlapping pollution plumes). When winds are at an angle to the highway link, pollution plumes from distant roadway segments make essentially no contribution to the pollution concentration observed at a receptor location. Under such cross-wind situations, pollutant concentrations near the highway are lower than under parallel wind conditions (fewer overlapping plume contributions), while pollutant concentrations away from the highway may be greater than would occur with parallel winds (near the center of at least some pollution plumes).

The CALINE4 model was originally released in 1984. Minor program revisions were made in 1988 and 1989. One of the program revisions made in 1989 introduced an altitude-based air pressure correction factor into the equation that converts air quality units from micrograms per cubic meter to parts per million by volume. By definition, such unit conversions should be done for 25 degrees Celsius and 1 atmosphere pressure (for proper comparison to federal and state ambient air quality standards). Actual ambient monitoring data must be corrected for temperature and pressure effects of actual ambient temperature and pressure. But the reverse procedure of adjusting modeling results to study area ambient temperature and air pressure should not be used.

The CALINE4 source code used for this EIS/EIR was reprogrammed to ignore study area altitude and air temperature, and to perform the correct unit conversion calculations. The CALINE4 source code was also modified to increase the number of roadway links and receptors that could be modeled in a single run, and to generate a summary table with the total carbon monoxide concentration at each receptor under each meteorological scenario.

All CALINE4 modeling conducted for this EIS/EIR used the model in the standard link run mode. Excess idling emissions at congested intersections were addressed through a simple emission rate adjustment procedure (Sculley 1989). The intersection link option in CALINE4 was not used.

M.2.1.1. Roadway and Traffic Conditions

The highway network modeled for this EIS/EIR included:

- I-80 from the Bay Bridge through the 80/580/880 distribution structure;
- I-580 between I-80 and I-980;
- I-880 from east of I-980 to I-80;
- I-980 from I-880 to I-580;
- Maritime Street;
- 7th Street and the 7th Street extension to Maritime Street;
- Middle Harbor Road;
- West Grand Avenue from Peralta Street to I-80;
- the new frontage road east of I-880, south of West Grand Avenue; and
- short sections of Adeline Street and Union Street at the ramps to I-880.

Roadway coordinates were scaled from available highway maps. Most roadways were modeled as multiple link segments to reflect changes in roadway alignment and traffic volumes. The overall roadway network was modeled as a system of 51 roadway links.

Surface streets were modeled as at-grade roadways. Most of the freeway links were modeled as bridge links, with relative elevations ranging from 5 feet to 60 feet (CH2M Hill 1990). Most mixing zone widths were based on a 5-foot turbulence zone on each side of the roadway, 12-foot lane widths for surface streets, and 15-foot lane widths (to account for center median widths) for the freeways.

Modeled traffic volumes were based on 2010 afternoon peak hour conditions for the No Action Alternative and the Maximum Marine/Maximum Rail, Minimum Marine/Minimum Rail, Maximum Marine/Minimum Rail, and Reduced Fill reuse alternatives. Modeled roadways were treated in a non-directional manner; traffic volumes and speeds in both directions were assigned to a single link. Surface street and freeway volumes were taken from link volume tables generated during traffic modeling studies conducted by Dowling Associates.

Table M-1 summarizes the roadway network used for the CALINE4 modeling analysis.

M.2.1.2. Receptor Locations

Carbon monoxide concentrations were calculated for 26 receptor locations to cover five roadway intersections and six park sites (as part of the 4(f) evaluation). Four receptors were used around each of the five intersections: Maritime Street and Burma Road; Maritime Street and 7th Street Extension; 7th Street and I-880; Adeline Street and 3rd Street; and Adeline Street and I-880. The modeled park site locations included: Port View Park, Middle Harbor Park, Ernie Raimondi Field, Willow Mini Park, Bertha Port Playground, and Chester Street Playground.

Intersection receptor coordinates represent locations 65 feet from the centerlines of the adjacent roadways, except at Maritime Street and Burma Road where a 75-foot distance was used. Receptor coordinates were calculated from roadway link coordinates using a coordinate geometry spreadsheet. All receptor heights were set at five feet.

Table M-2 presents the receptor coordinates used for the CALINE4 modeling.

M.2.1.3. Meteorological and Surface Roughness

All CALINE4 runs assumed a wind speed of 1.0 meters per second (2.2 mph), stable atmospheric conditions (stability class E and a horizontal wind direction fluctuation parameter of 10 degrees), and a mixing height limit of 50 meters (164 feet). Wind directions were varied in 10 degree increments to identify the situation producing the highest total pollutant concentration at each receptor location.

The CALINE4 model was run using an averaging time of 60 minutes and a surface roughness factor of 75 centimeters. No settling or deposition velocities were used. A scale factor of 0.3048 was used to convert link and receptor coordinate units from feet to meters.

M.2.1.4. Background Concentrations

Background pollutant concentrations represent the increment of pollution levels contributed by emission sources that are not included directly in the modeling analysis. The major contributors to background carbon monoxide levels are

unmodeled surface streets and parking lots. A peak hour background concentration of 4 ppm was manually added to the modeling results for each receptor location.

M.2.1.5. 8-Hour Average Carbon Monoxide Concentrations

Potential 8-hour average carbon monoxide levels were estimated by applying a persistence factor of 79% to the maximum 1-hour carbon monoxide levels (modeled increment plus background) for each receptor location. This persistence factor was derived from the ratio of peak 8-hour versus peak 1-hour carbon monoxide concentrations reported from the Alice Street monitoring station in recent years.

M.2.2. Vehicle Emission Rates

The EMFAC7F vehicle emission rate program (California Air Resources Board 1992, 1993, 1993a, 1993b) was used to estimate carbon monoxide emission rates for vehicles operating on roadways in the study area. EMFAC7F determines vehicle emission rates based on a wide range of factors: pollutants of interest; calendar year; air temperature; mix of vehicle types; average route speed; age distribution of vehicles by type; average annual mileage accumulations by vehicle age and type; basic exhaust emission rates for new vehicles by vehicle type and model year; deterioration rates for exhaust emissions by vehicle type and accumulated mileage; and the effectiveness of vehicle inspection and maintenance programs.

EMFAC7F is designed primarily for use in generating regional and statewide emission inventories rather than roadway segment emission rates used for dispersion models. In addition, the model is structured to use default values for most input parameters. Consequently, standardized EMFAC7F output files provided by the California Air Resources Board (CARB) were placed into a spreadsheet model that performs appropriate unit conversions and composite weightings while allowing the user to vary key parameters of interest. Lookup table data in the spreadsheet version of EMFAC7F are based on 5 mph speed increments and 10 degree temperature increments. Key input data and assumptions used for the dispersion modeling analysis are discussed below.

M.2.2.1. Calendar Years

Average vehicle emission rates depend on the types and condition of vehicles operating in the area of concern. State and federal motor vehicle emission control programs are resulting in a continuing reduction in average emission rates for most types of vehicles. Average emission rates will change in the future as vehicles manufactured without sophisticated emission control systems are replaced by newer vehicles with more extensive emission control systems. Air quality analyses involving highway traffic conditions must therefore reflect vehicle emission rates for an appropriate calendar year.

The EMFAC7F program includes emission rates for calendar years from 1980 to 2020. Emission rates used for this analysis were for 2010.

M.2.2.2. Air Temperature

Vehicle emission rates for carbon monoxide vary with ambient air temperature, generally being higher at lower temperatures. Carbon monoxide problems are primarily a winter phenomenon, and tend to occur most often in the late afternoon and evening hours. A typical winter season late afternoon air temperature of 50 degrees Fahrenheit was used for all emission rates.

M.2.2.3. Vehicle Mixes

The EMFAC7F model contains emission rate data for several categories of vehicles, with distinctions based primarily on vehicle weight and fuel type. Different vehicle mixes were used for surface streets and freeways included in the dispersion modeling analysis. The vehicle mixes were generated by a spreadsheet model that adjusts regional vehicle registration data for alternative heavy truck fractions.

Because the modeled surface streets are important truck routes, the surface street vehicle mix was 52.67% autos, 16.71% light trucks/vans, 1.70% medium trucks/vans, 2.56% gasoline-fueled heavy trucks, 25.62% diesel-fueled heavy trucks, and 0.74% motorcycles. The freeway vehicle mix was 64.26% autos, 20.39% light trucks/vans, 2.08% medium trucks/vans, 2.58% gasoline-fueled heavy trucks, 9.79% diesel-fueled heavy trucks, and 0.90% motorcycles. The spreadsheet version of EMFAC7F uses CARB default factors to split the light and medium duty vehicle types into catalyst-equipped, noncatalyst, and diesel-fueled subtypes.

M.2.2.4. Vehicle Operating Modes

The EMFAC7F program recognizes three operating mode conditions for gasoline-fueled passenger vehicles. These operating modes (cold start, hot start, and hot stabilized) are a function of four factors: how long a vehicle's engine has been on; how long the vehicle was parked before the engine was started; the operating mode condition of the vehicle at the time it was previously parked; and whether the vehicle has a catalytic converter. Vehicles operating in a cold start mode have significantly higher emission rates than those operating in hot start or hot stabilized modes.

Vehicle operating mode definitions reflect the conditions of standardized test procedures used to certify that new vehicles meet applicable federal and state emission standards. By definition, the hot stabilized mode represents all vehicle operations occurring after the engine has been on for 505 seconds. The first 505 seconds of vehicle operation will be in either a cold start or a hot start mode. Cold start and hot start operating modes are distinguished by three factors: the operating mode condition of the vehicle when parked; the duration of parking preceding vehicle start-up; and the presence or absence of a catalytic converter.

Vehicles with a catalytic converter will resume operations in a cold start mode after the engine has been off for 1 hour or more. Vehicles without a catalytic converter resume operations in a cold start mode after the engine has been off for 4 hours or more. Any vehicle which is still in a cold start mode when parked will resume operations in a cold start mode regardless of the parking duration.

If a catalyst-equipped vehicle is parked for less than 1 hour, it will resume operations in a hot start mode (unless the vehicle was still in a cold start mode when it parked). If a noncatalyst vehicle is parked for a period of less than 4 hours, it will resume operations in a hot start mode.

Parking duration patterns vary by trip purpose. Work trips often begin in a cold start mode and end with a long parking duration. Shopping trips are more likely to begin in a hot start mode and end with a short or intermediate parking duration. Typical cold start and hot start patterns by trip type have been developed by the

California Department of Transportation (Caltrans) using data from statewide travel pattern surveys (California Department of Transportation 1981).

Vehicle emission rates used in a dispersion modeling analysis should reflect a point estimate of the fraction of vehicles operating in start mode conditions along various roadway segments. This can be calculated by estimating two components of the traffic flow for relevant roadway segments: the mix of trip purposes for the time period being modeled, and the fraction of vehicles that will have been in operation for more than 8.4 minutes (505 seconds). The Caltrans start mode fractions can then be applied to derive cold start and hot start fractions.

A simple spreadsheet model was used perform the operating mode calculations for surface street and freeway traffic. Table M-3 shows the operating mode calculations for surface street traffic, and Table M-4 shows the calculations for freeway traffic. EMFAC7F emission rates were calculated using the weighted average operating mode fractions.

M.2.2.5. Vehicle Speeds

Emission rates used in the dispersion modeling analysis were calculated for various average traffic speed conditions. Afternoon peak hour traffic speeds assumed for the various roadway links are shown in Table M-1. Speeds of 25 or 35 mph were assumed for most freeway segments. Speeds of 10, 15, or 25 mph were assumed for most surface street segments.

M.2.2.6. Excess Idling Emissions

The equations used in the vehicle emission rate models incorporate coefficients representing speed-dependent patterns of vehicle idling, acceleration, cruising, and deceleration. The resulting vehicle emission rates do not represent a constant speed cruise condition. Instead, they represent a pattern of speed changes representing an overall average route speed. The amount of idling time inherent in the emission rate models increases from about 2 percent of travel time at 55 mph to 10 percent at 30 mph and to 48 percent at 5 mph (Smith and Aldrich 1977; Sculley 1989). This inherent pattern adequately accounts for congestion-related idling on most roadways that do not experience significant congestion or signalization delays.

The amount of vehicle idling occurring at congested or signalized intersections can exceed the amount of idling inherent in the vehicle emission rate models, even if low intersection approach speeds are assumed. To more adequately account for the amount of idling at congested intersections, special adjustments were made to the basic EMFAC7F emission rates for roadway links at congested intersections.

The basic idle adjustment procedure uses the length of a modeled roadway link and the assumed average vehicle speed to determine the amount of idling time inherent in the associated EMFAC7F emission rate. This idling time value can then be compared to an estimate of expected actual delay time per vehicle (based on intersection delay analyses, level-of-service estimates, or signal cycle times). If the expected actual delay per vehicle exceeds the idling time accounted for in the vehicle emission rates, an excess idling emission rate increment can be calculated and added to the basic EMFAC7F rate.

Traffic modeling studies by Dowling Associates provided an estimate of vehicle delay times for major intersections and freeway ramp areas. Table M-1 shows the delay time per vehicle assumed for each of the modeled roadway links.

The EMFAC7F model does not provide a direct calculation of idling emission rates, but idling rates can be estimated from emission rates at low average speeds. The conventional approach for estimating hot stabilized idling emission rates is to convert a 5-mph, 100% hot stabilized emission rate into a time-based rate (grams of pollutant per minute). Because of the internal structure of the EMFAC7F model, it is also necessary to calculate a cold start correction factor from 100% stabilized mode and 100% cold start mode emission rates at a speed of 16 mph.

Table M-5 shows the idling delay adjustments used for freeway links under the No Action scenario. Table M-6 shows the freeway link idling adjustments used all four of the Vision 2000 plan alternatives (Alternatives A, B, C, and D). Tables M-7 through M-11 summarize the idling delay adjustments used for surface street emission rates under the No Action Alternative and the four Vision 2000 plan alternatives.

M.3. Motor Vehicle Emission Estimates

Ozone and carbon monoxide are the pollutants most strongly correlated with motor vehicle emissions. Carbon monoxide is a direct emission product resulting from fuel combustion. Ozone is not emitted directly to the atmosphere, but is formed from complex chemical reactions in the atmosphere in the presence of sunlight. The directly emitted pollutants which produce ozone through photochemical reactions fall into two groups: reactive organic compounds and nitrogen oxides. Motor vehicle emissions are a major source of both pollutant groups.

Air pollutant emissions associated with vehicle travel under the alternative reuse plans were estimated by combining appropriate vehicle emission rates and travel pattern estimates. Travel pattern estimates were developed to reflect typical trip patterns for average weekday conditions. Traffic studies conducted EIS/EIR were used as the starting point for the trip generation and travel pattern analysis.

Vehicle emission rates were calculated using the EMFAC7F vehicle emission rate model. As noted previously, the approach used to generate appropriate vehicle emission rates for an ozone precursor analysis differs somewhat from the approach used for carbon monoxide dispersion modeling. Because vehicle emission rates are nonlinear functions of speed and operating mode conditions, using single "daily average" values for key parameters can introduce significant errors into the emission estimates. A better approach is to develop distribution patterns that reflect vehicle operating conditions and speeds over an entire day.

Trip generation for each land use category was disaggregated into trip purpose components. Travel time distributions were estimated for each trip purpose category. The travel time distributions provided a mean travel time and a mean vehicle operating mode pattern. The mean travel time was then combined with a speed distribution pattern to compute appropriate weighted average travel distances and emission rates for each trip purpose. The travel distances and emission rates were then combined to produce estimated vehicle emissions for trips associated with each land use category for a particular reuse scenario.

Major steps in the analysis procedure are discussed below. Tabular summaries for most of the major steps are presented at the end of the discussion.

M.3.1. Trip Generation

Trip generation estimates presented in the EIS/EIR were developed separately for auto traffic and truck traffic, based on data provided by Jordan Woodman Dobson (for maritime facilities) and Nolte and Associates (for rail facilities). Vehicle trip estimates for employee traffic were based on published trip generation rates (Institute of Transportation Engineering, 1991). The standard trip generation rates were subsequently adjusted to reflect ridesharing, transit use, and other trip reduction measures. Truck trip estimates were developed primarily from estimates of ship cargo movements and the options for rail versus truck transport of these cargoes.

M.3.2. Travel Patterns

Travel pattern estimates were developed from two components: estimated travel time distributions for various trip types, and estimated vehicle speed distributions for the same trip types. The travel time and vehicle speed distributions represent professional judgment based on regional land use patterns, regional transportation systems, existing employee residency pattern data, previous analyses of travel patterns as represented by various regional traffic models, and previous analyses of data from regional and statewide travel pattern surveys.

Table M-12 presents the trip duration patterns used for the analysis of auto trips. A limited amount of comparison information is available from travel survey data collected by federal, state, and regional agencies. Data from the 1980 census give an average home-work commute trip duration of 26 minutes for the San Francisco/Oakland (US Federal Highway Administration 1985). More recent Caltrans data also show a similar average commute trip duration (25 minutes) for the Bay Area (California Department of Transportation, 1992). The travel time distribution pattern for home-work commute trips has an average travel time (24.75 minutes) close to the Caltrans and Census estimates. Travel time distribution patterns for other trip purposes are based primarily on professional judgment.

Employee residency surveys conducted in 1993 indicate an average commute distance of about 18 miles for Port and FISCO employees (Table M-13). More limited employee travel surveys conducted for the Port of Oakland in 1995 show that more than half of the employees report a commute distance of more than 10 miles, with nearly 8% reporting a commute distance of 30 miles or more.

Truck origin destination pattern data for the Port of Oakland indicate that 71% of the Port-related truck trips begin and end in the San Francisco Bay Area, with the remaining 29% traveling to or from other parts of California or other states (Table M-14).

The travel distance data in Tables M-13 and M-14 were used to adjust travel time and travel speed pattern assumptions so as to generate realistic travel distance values.

M.3.3. Vehicle Emission Rates

A general discussion of the EMFAC7F vehicle emission rate model was presented in the discussion of carbon monoxide dispersion modeling procedures. The nature of

ozone precursor emissions analysis procedures requires that EMFAC7F emission rates be based on:

- daily, rather than peak hour, patterns of vehicle activity;
- land use-generated vehicle trips (by trip purpose categories), rather than total traffic on particular types of roadways; and
- summer temperature patterns, rather than winter patterns.

In addition to computing the proper weighted average emission rates from EMFAC7F output files, the spreadsheet version of EMFAC7F included complete calculations of diurnal and multiday diurnal evaporative emissions. These calculations are normally performed by a separate computer model (BURDEN7F) when CARB prepares emission inventories.

Table M-15 summarizes emission rates for reactive organic compounds and nitrogen oxides. Table M-16 summarizes emission rates for PM_{10} and carbon monoxide. Key input data and assumptions used for the vehicle emissions analysis are discussed below.

M.3.3.1. Calendar Years

Emission rates used for this analysis represent expected vehicle mixes for 2010.

M.3.3.2. Air Temperature

Exhaust emission rates were calculated for a mean summer day air temperature of 70 degrees Fahrenheit. Winter carbon monoxide exhaust emission rates were also calculated, using an air temperature of 50 degrees Fahrenheit. Evaporative emissions were calculated for a summer day temperature profile that varied from a low of 55 degrees Fahrenheit to a high of 80 degrees Fahrenheit. Intermediate temperatures used for computing diurnal emissions were: 58 degrees at 8 a.m., 61 degrees at 9 a.m., 71 degrees at 11 a.m., and 76 degrees at 1 p.m.

M.3.3.3. Vehicle Mixes

Separate vehicle type mixes were used for port-related auto traffic (mostly employees) and port-related truck traffic. The auto traffic vehicle mix included 73.33% autos, 23.27% light trucks/vans, 2.37% medium trucks/vans, 0% gasoline-fueled heavy duty trucks, 0% diesel-fueled heavy duty trucks, and 1.03% motorcycles. The truck traffic vehicle mix included 5% gasoline-fueled heavy duty trucks and 95% diesel-fueled heavy duty trucks, with no other vehicle types.

M.3.3.4. Vehicle Operating Modes

Table M-12 included the calculation of daily average vehicle operating mode conditions for the trip purpose categories use in the ozone precursor emissions analysis. The operating mode conditions were computed directly from the trip duration patterns assumed for this analysis.

M.3.3.5. Vehicle Speeds

The speed profiles assumed for each trip purpose category are presented the tables that follow. In general, home-work trips were assumed to have a speed profile that

produced an average speed of 45 mph. Work-other trips had an speed profile averaging 40 mph. Other trip types had speed profiles averaging about 35 mph.

M.3.4. Emission Calculations for Autos and Trucks

Emission estimates for vehicle traffic under the various alternatives are presented in the following tables. Tables M-12 through M-16 provide data used for all alternatives. Tables M-17 through M-22 provide the analysis for the No Action Alternative. Tables M-23 through M-28 provide the analysis for the Maximum Marine/Maximum Rail Alternative (referred to as Alternative A). Tables M-29 through M-34 provide the analysis for the Minimum Marine/Minimum Rail Alternative (referred to as Alternative B). Tables M-35 through M-40 provide the analysis for the Maximum Marine/Minimum Rail Alternative (referred to as Alternative C). Tables M-41 through M-46 provide the analysis for the Reduced Harbor Fill Alternative (referred to as Alternative D).

The primary emission calculation process was based on estimates of average daily vehicle trip patterns. Annual emission estimates were derived by assuming 250 working days per year.

M.4. Locomotive Emission Estimates

Emission estimates for rail traffic associated with the Port of Oakland have been based on data developed primarily for use in traffic impact analyses.

M.4.1. Train Categories and Sizes

Table M-47 summarizes the characteristics of various trains potentially using rail segments through the Bay Area. Amtrak trains pass through the West Oakland rail yard, and use portions of the rail yard for assembly and maintenance of trains. Local and long-haul freights pass through the West Oakland yard, with some trains originating from the yard. In general, 6,000-foot freights are the longest trains assembled at the West Oakland yard.

M.4.2. Major Rail Routes

The rail traffic data used for this analysis was developed with a focus on northwestern Alameda and western Contra Costa Counties. Rail traffic projections were made for the main rail lines north and south of the West Oakland railyard. These projections, however, did not identify ultimate destinations beyond northern Alameda or western Contra Costa Counties. To fully address emissions from rail operations, it was necessary to extrapolate the rail traffic projections to major rail routes leading out of the Bay Area toward the Sacramento Valley, San Joaquin Valley, and the Monterey Bay/Salinas Valley area. Table M-47 identifies the lengths of various main track segments in the Bay Area.

Rail traffic on the main line north of Oakland was split into Sacramento Valley and San Joaquin Valley components. Freight traffic was evenly split between these two corridors. All long (interstate) Amtrak trains were assigned to the Sacramento Valley corridor. Short (intrastate) Amtrak trains were assigned 60% to the Sacramento Valley and 40% to the San Joaquin Valley corridors.

Rail traffic on the main line south of Oakland was separated into the San Joaquin Valley and South Bay/Salinas corridors. Local freights were split evenly between San Jose area destinations and Monterey/Salinas destinations (Gilroy). All intermodal

freights south of Oakland were assigned to the San Joaquin Valley corridor (via Livermore).

Projected 2010 rail traffic estimates (number of trains and gross ton-miles of rail activity) are presented in Tables M-48 (No Action), M-50 (Maximum Marine/Maximum Rail or Alternative A), M-52 (Minimum Marine/Minimum Rail or Alternative B), M-54 (Maximum Marine/Minimum Rail or Alternative C), and M-56 (Reduced Harbor Fill or Alternative D).

M.4.3. Locomotive Emission Rates and Emission Estimates

The number of locomotives used for a train depends on the total gross weight of the train and terrain conditions along the train's route. Emission rates for rail operations can be given in several different format (such as emissions per hour at different throttle settings for individual locomotives, emissions per pound of fuel burned, or emissions per gross ton-mile of train travel). Emission rates given in the EPA emission inventory guidance document (US Environmental Protection Agency, 1992) are standardized on the basis or gross train weight and distance traveled. Emission rates in this ton-mile format account for the use of multiple engines on heavy trains. Table M-47 identifies emission rates applicable to different train types and sizes.

Table M-49 presents annual rail traffic emissions for major rail segments under the No Action Alternative. Table M-51 presents rail traffic emission estimates for the Maximum Marine/Maximum Rail Alternative (Alternative A). Table M-53 presents rail emission estimates for the Minimum Marine/Minimum Rail Alternative (Alternative B). Table M-55 presents rail emission estimates for the Maximum Marine/Minimum Rail Alternative (Alternative C). And Table M-57 presents rail emission estimates for the Reduced Harbor Fill Alternative (Alternative D).

A summary comparison of rail traffic emission for the various alternatives is presented in Table M-58. Also included in Table M-58 is a summary of the net emission increases (compared to the No Action Alternative) for the four reuse plan alternatives.

M.5. Cargo Ship Emission Estimates

The major types of ships using the Port of Oakland include container ships, bulk carriers, and various general cargo ship types. Ship sizes are generally specified either by physical dimensions (length and draft), or by dead weight tons (dwt). Most ships using the Port of Oakland operate with marine diesel engines. A relatively low percentage of cargo ships use steam boilers. While moored at the Port, ships provide their own electrical power and other utilities. Large diesel generators are used for this purpose by most ships. Steam powered ships often switch from heavy bunker fuels to lighter distillate oil fuel for power and utility service while moored.

M.5.1. Ship Call Projections

Table M-59 summarizes the types and sizes of cargo vessels that used the Port of Oakland in 1991 (based on data in California Air Resources Board, 1991). Container ships represented the majority of ship traffic (72%). Bulk carriers represented 17% of the ship traffic, and other cargo vessel types represented 11% of the traffic. Most ships using the Port of Oakland were less than 50 dwt in size.

Average ship sizes are expected to increase in the future, especially for container ships. The sizes of ships that use the Port of Oakland will depend largely on the depth of ship channels serving the Port. Although no specific forecasts of ship sizes and types have been prepared for the Port of Oakland, the traffic analyses prepared for this EIS/EIR assume that average ship sizes will increase in the future.

Future ship size distributions were estimated by assuming that the percentages of container, bulk carrier, and other cargo vessel traffic will remain the same as at present, but that the size distribution of marine diesel container ships will shift toward larger average sizes. Emission forecasts for 2010 assumed that 10% of diesel container ships would be less than 25 dwt (compared to 28.1% in 1991), 65% would be 25-50 dwt (compared to 58.5% in 1991), 20% would be 50-75 dwt (compared to 10.4% in 1991, and 5% would be 75-100 dwt (compared to 3% in 1991). As noted in Table M-59, most cargo vessels remain moored at the port for 30-36 hours.

M.5.2. Ship Emission Rates and Emission Estimates

Vessel emission rates used for this analysis are summarized in Table M-60. The emission rates come primarily from California Air Resources Board (1991). Emission rates for diesel generators are from US Environmental Protection Agency (1993). Ship transit times and throttle settings for movements into and out of the Port of Oakland are from California Air Resources Board (1991). Potential fuel use rates for various ship types and sizes are presented in Table M-59. Actual average fuel use factors in Table M-60 are from California Air Resources Board (1991) and Port of Long Beach (1986). Each ship visiting the Port of Oakland makes two movements: transit from the ocean to the Port of Oakland, and transit from the Port of Oakland to the ocean.

Table M-61 presents year 2010 emission estimates for the No Action Alternative. Table M-62 presents emission estimates for the Maximum Marine/Maximum Rail Alternative (Alternative A). Table M-63 presents emission estimates for the Minimum Marine/Minimum Rail Alternative (Alternative B). Table M-64 presents emission estimates for the Maximum Marine/Minimum Rail Alternative (Alternative C). Table M-65 presents emission estimates for the Reduced Harbor Fill Alternative (Alternative D). Table M-66 provides a summary comparison of ship emissions for the various alternatives. Also included in Table M-66 is a summary of the net emission increases (compared to the No Action Alternative) for the four reuse plan alternatives.

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TABLE M-1. ROADWAY NETWORK USED FOR CALINE4 DISPERSION MODELING

		LINK SEGMENT COORDINATES							PM PEAK HOUR VOLUMES					PEAK HR	DELAY TIME PER VEHICLE (SEC)				
ROADWAY	SEGMENT	X1	Y1	X2	Y2	HEIGHT	SEGMENT LENGTH	LANES	NO ACTION	ALT A	ALT B	ALT C	ALT D	BASE SPEED	NO ACT	ALT A	ALT B	ALT C	ALT D
I-80	BAY BRIDGE	0	5148	6085	7769	40	6625	10	19150	19208	19223	19262	19250	25	50	50	50	50	50
	BTWN NEW RAMPS	6085	7769	8674	9152	40	2936	6	6647	6633	6672	6618	6629	25	20	20	20	20	20
	N OF 580	8674	9152	7543	10937	30	2113	8	17737	17801	17809	17811	17802	25	75	75	75	75	75
I-880	BRDG CONNECTOR	6085	7769	8850	7191	60	2826	4	2250	2334	2348	2331	2332	35	5	5	5	5	5
	JNCTN CNCTN 1	8674	9152	9051	8146	60	1074	4	4467	4578	4537	4593	4582	25	30	30	30	30	30
	JNCTN CNCTN 2	9051	8146	8850	7191	40	976	4	4467	4578	4537	4593	4582	25	30	30	30	30	30
	DESERT YARD	8850	7191	7719	4953	25	2507	6	5106	5179	5066	5008	5187	35	15	15	15	15	15
	N OF 7TH ST	7719	4953	7593	3897	20	1063	6	5106	5179	5066	5008	5187	35	15	15	15	15	15
	S OF 7TH ST 1	7593	3897	8222	3243	5	907	6	6988	7295	7134	6889	7284	35	10	10	10	10	10
	S OF 7TH ST 2	8222	3243	9278	3042	0	1075	6	6988	7295	7134	6889	7284	35	10	10	10	10	10
	W OF MANDELA	9278	3042	10057	3344	20	836	6	6988	7295	7134	6889	7284	35	10	10	10	10	10
	W OF UNION	10057	3344	10635	3671	40	664	6	5884	6129	6094	6044	6125	35	10	10	10	10	10
	E OF UNION	10635	3671	11968	3696	60	1333	6	5884	6129	6094	6044	6125	35	10	10	10	10	10
	W OF 980	11968	3696	13099	3470	50	1154	6	5884	6129	6094	6044	6125	35	10	15	15	15	15
	E OF 980	13099	3470	14834	3168	40	1761	8	13477	13720	13700	13745	13723	25	35	45	45	45	45
I-980	N OF 880 NB 1	13099	3470	12747	3998	40	635	4	7538	7521	7532	7530	7521	25	30	30	30	30	30
	N OF 880 SB 1	13099	3470	12672	3746	40	509	4	3864	3854	3860	3858	3854	25	30	30	30	30	30
	N OF 880 NB 2	12747	3998	13024	5582	40	1608	4	7538	7521	7532	7530	7521	25	30	30	30	30	30
	N OF 880 SB 2	12672	3746	13024	5582	40	1869	4	3864	3854	3860	3858	3854	25	30	30	30	30	30
	S OF BRUSH	13024	5582	13125	6085	40	513	8	11402	11375	11392	11388	11375	25	30	30	30	30	30
	N OF BRUSH	13125	6085	13728	7442	40	1486	8	11402	11375	11392	11388	11375	25	30	30	30	30	30
	S OF 580	13728	7442	13577	9655	40	2218	8	11402	11375	11392	11388	11375	25	30	30	30	30	30
SR 24	N OF 580	13577	9655	13451	11063	40	1414	8	12622	12626	12630	12630	12627	25	30	30	30	30	30

TABLE M-1. ROADWAY NETWORK USED FOR CALINE4 DISPERSION MODELING

ROADWAY	SEGMENT	LINK SEGMENT COORDINATES X1	Y1	X2	Y2	HEIGHT	SEGMENT LENGTH	LANES	PM PEAK HOUR VOLUMES NO ACTION	ALT A	ALT B	ALT C	ALT D	PEAK HR BASE SPEED	DELAY TIME PER VEHICLE (SEC) NO ACT	ALT A	ALT B	ALT C	ALT D
I-580	E OF JNCTN	8674	9152	9730	9202	40	1057	10	18173	18205	18195	18194	18205	25	45	45	45	45	45
	W OF PERALTA	9730	9202	10560	9630	40	933	10	18173	18205	18195	18194	18205	25	45	45	45	45	45
	W OF 980	10560	9630	13577	9655	45	3017	10	18173	18205	18195	18194	18205	25	45	45	45	45	45
	E OF 980	13577	9655	14809	9605	45	1233	8	15427	15427	15429	15427	15427	25	45	45	45	45	45
MARITIME	S OF W GRAND	7543	7593	7291	7166	0	496	4	1535	1515	1615	1577	1512	10	19	19	19	19	19
	S OF BURMA RD	7291	7166	6512	5531	0	1811	4	1280	1318	1347	1386	1319	25	10	10	10	9	9
	S OF 14TH	6512	5531	5883	4199	0	1473	4	1505	1740	1697	1828	1752	25	20	20	22	20	20
	S OF 7TH ST EXT	5883	4199	5632	3696	0	562	4	1137	1372	1329	1460	1384	10	11	14	20	13	14
7TH ST	W OF MDL HARBOR	2891	2640	4023	3017	0	1193	4		1532	955	1006	1579	15	5	16	10	21	17
	E OF MDL HARBOR	4023	3017	4576	3495	0	731	4		1629	1484	1898	1676	25	5	5	5	5	5
	W OF MARITIME	4576	3495	5632	3696	0	1075	4	1403	1738	1649	1815	1787	25	5	5	5	5	5
	E OF MARITIME	5632	3696	6210	3797	0	587	4	1403	1846	1814	1731	1898	25	5	5	5	5	5
	7TH ST EXTNSN	5883	4199	6210	3797	0	518	4	407	2375	1062	1469	2454	10	19	14	20	29	15
	W OF 880 + RAMP	6210	3797	7593	3897	0	1387	4	948	1618	1236	1968	1763	25	5	5	5	5	5
	E OF 880 + RAMP	7593	3897	9026	3897	0	1433	4	1204	1507	1505	1524	1570	15	19	18	18	18	19
MIDDLE	S OF 7TH ST	4023	3017	4727	2263	0	1032	4		625	223	899	690	25	5	5	5	5	5
HARBOR	W OF NEW RD	4727	2263	6613	1961	0	1910	4	913	1003	426	1006	1050	25	5	5	5	5	5
	E OF NEW RD	6613	1961	8951	1634	0	2361	4	1152	625	1236	1968	690	25	5	5	5	5	5
	EDGE OF RR YARD	8951	1634	10962	2816	0	2333	4	1612	1749	1628	1877	1786	15	19	32	32	46	36
	S OF 3RD	10962	2816	11088	3193	0	398	4	1612	1749	1628	1877	1786	10	38	64	64	92	72
ADELINE	S OF 880 + RAMP	11088	3193	11088	3696	0	503	4	1321	1374	1338	1414	1382	25	5	5	5	5	5
	N OF 880 + RAMP	11088	3696	11088	4174	0	478	4	1446	1583	1462	1711	1620	10	20	30	21	22	31

TABLE M-1. ROADWAY NETWORK USED FOR CALINE4 DISPERSION MODELING

		LINK SEGMENT COORDINATES					SEGMENT		PM PEAK HOUR VOLUMES					PEAK HR BASE	DELAY TIME PER VEHICLE (SEC)				
ROADWAY	SEGMENT	X1	Y1	X2	Y2	HEIGHT	LENGTH	LANES	NO ACTION	ALT A	ALT B	ALT C	ALT D	SPEED	NO ACT	ALT A	ALT B	ALT C	ALT D
UNION	N OF 880 + RAMP	10635	3193	10635	3671	0	478	4	1000	1073	960	902	1081	10	16	17	16	16	17
	S OF 880 + RAMP	10635	3671	10635	4174	0	503	4	433	433	433	433	433	25	5	5	5	5	5
FRONTAGE	S OF W GRAND	8950	7141	8222	5733	0	1585	4	1547	1569	1650	1753	1565	25	5	5	5	5	5
	S OF 14TH	8222	5733	7819	4928	0	900	4	512	706	717	836	778	25	5	5	5	5	5
W GRAND	W OF FRONTAGE	7543	7593	8950	7141	0	1478	4	2213	2267	2292	2276	2340	25	5	5	5	5	5
	E OF FRONTAGE	8950	7141	9931	6864	0	1019	4	1149	1031	1127	1093	1028	10	22	22	22	22	23

TABLE M-2. CALINE4 RECEPTOR COORDINATES

RECEPTOR LOCATION	X-COORD	Y-COORD	OFFSET
MARITIME & BURMA, NW	7,262	7,264	75
MARITIME & BURMA, SW	7,192	7,132	75
MARITIME & BURMA, NE	7,396	7,197	75
MARITIME & BURMA, SE	7,326	7,065	75
MARITIME & 7TH ST EXT, NW	5,868	4,320	65
MARITIME & 7TH ST EXT, SW	5,806	4,190	65
MARITIME & 7TH ST EXT, NE	5,959	4,208	65
MARITIME & 7TH ST EXT, SE	5,896	4,080	65
7TH & 880, NW	7,535	3,958	65
7TH & 880, SW	7,567	3,830	65
7TH & 880, NE	7,666	3,962	65
7TH & 880, SE	7,746	3,832	65
ADELINE & 3RD, NW	11,023	3,258	65
ADELINE & 3RD, SW	10,998	3,128	65
ADELINE & 3RD, NE	11,153	3,258	65
ADELINE & 3RD, SE	11,135	3,128	65
ADELINE & 880, NW	11,023	3,743	65
ADELINE & 880, SW	11,023	3,613	65
ADELINE & 880, NE	11,153	3,746	65
ADELINE & 880, SE	11,153	3,616	65
PORT VIEW PARK	2,693	2,323	
MIDDLE HARBOR PARK	8,712	713	
ERNIE RAIMONDI FIELD	9,425	6,890	
WILLOW MINI PARK	9,240	5,729	
BERTHA PORT TOT LOT	8,554	4,330	
CHESTER STREET TOT LOT	9,821	3,515	

Note: Coordinates and roadway offset distances are in feet.

TABLE M-3. OPERATING MODES FOR SURFACE STREET TRAFFIC

TRIP PURPOSE	TRIP PURPOSE MIX	HOT STABLE FRACTION		COLD START FRACTION	HOT START FRACTION
H-W	40.00%	50.00%		46.25%	3.75%
H-S	10.00%	45.00%		28.97%	26.03%
H-O	20.00%	60.00%		27.23%	12.77%
O-W	20.00%	50.00%		31.20%	18.80%
O-O	10.00%	45.00%		15.77%	39.23%
CHECKSUM:	100.00%	51.00%	WTD MEAN:	34.66%	14.34%

START MODE = FIRST 505 SECONDS OF VEHICLE TRAVEL
STABLE MODE = TRAVEL AFTER 505 SECONDS OF VEHICLE OPERATION

CATALYST FRACTION FOR LDA + LDT + MDT + MC 98.92%

	COLD START	HOT START
CATALYST	34.76%	14.24%
NONCATALYST	25.85%	23.15%

START MODE SPLIT FACTORS:

	CATALYST VEHICLES		NONCAT VEHICLES	
TRIP PURPOSE	COLD STARTS	HOT STARTS	COLD STARTS	HOT STARTS
H-W	92.63%	7.37%	80.04%	19.96%
H-S	52.89%	47.11%	33.61%	66.39%
H-O	68.35%	31.65%	43.38%	56.62%
O-W	62.64%	37.36%	40.73%	59.27%
O-O	28.90%	71.10%	8.25%	91.75%
WTD MEAN:	71.43%	28.57%	53.02%	46.98%

TABLE M-4. OPERATING MODES FOR FREEWAY TRAFFIC

TRIP PURPOSE	TRIP PURPOSE MIX	HOT STABLE FRACTION		COLD START FRACTION	HOT START FRACTION
H-W	60.00%	90.00%		9.25%	0.75%
H-S	5.00%	65.00%		18.44%	16.56%
H-O	10.00%	80.00%		13.62%	6.38%
O-W	20.00%	80.00%		12.48%	7.52%
O-O	5.00%	82.50%		5.02%	12.48%
CHECKSUM:	100.00%	85.38%	WTD MEAN:	10.58%	4.04%

START MODE = FIRST 505 SECONDS OF VEHICLE TRAVEL
STABLE MODE = TRAVEL AFTER 505 SECONDS OF VEHICLE OPERATION

CATALYST FRACTION FOR LDA + LDT + MDT + MC 98.92%

	COLD START	HOT START
CATALYST	10.61%	4.02%
NONCATALYST	7.96%	6.67%

START MODE SPLIT FACTORS:

	CATALYST VEHICLES		NONCAT VEHICLES	
TRIP PURPOSE	COLD STARTS	HOT STARTS	COLD STARTS	HOT STARTS
H-W	92.63%	7.37%	80.04%	19.96%
H-S	52.89%	47.11%	33.61%	66.39%
H-O	68.35%	31.65%	43.38%	56.62%
O-W	62.64%	37.36%	40.73%	59.27%
O-O	28.90%	71.10%	8.25%	91.75%
WTD MEAN:	79.03%	20.97%	62.60%	37.40%

TABLE M-5. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT FREEWAY TRAFFIC IN 2010

INPUT VARIABLES	80-1	80-2	80-3	880-1	880-2	880-3	880-4	880-5	880-6	880-7	880-8	880-9	880-10	880-11
SPEED (MPH) FOR BASE EMISSION RATE	25	25	25	35	25	25	35	35	35	35	35	35	35	35
LINK LENGTH, FEET	6,625	2,936	2,113	2,826	1,074	976	2,507	1,063	907	1,075	836	664	1,333	1,154
DELAY PER VEHICLE, SECONDS OF IDLE	50	20	75	5	30	30	15	15	10	10	10	10	10	10
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	2.98	3.77	3.77	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
100% STABILIZED 5 MPH RATE, GM/MI	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72
100% STABILIZED 16 MPH RATE, GM/MI	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
100% COLD START 16 MPH RATE, GM/MI	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96
% CATALYST COLD STARTS	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61
OUTPUT														
HOT STABILIZED IDLE RATE, GM/MIN	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
ADJUSTED COLD START 5 MPH RATE, GM/MI	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27
COLD START IDLE RATE, GM/MIN	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	13.65	6.99	13.65	13.65	6.99	6.99	6.99	6.99	6.99	6.99	6.99	6.99
IDLE SECONDS IN EMFAC/MOBILE RATES	24.66	10.93	7.87	3.85	4.00	3.63	3.41	1.45	1.24	1.46	1.14	0.90	1.82	1.57
REQUIRED EXTRA IDLE SECONDS	25.34	9.07	67.13	1.15	26.00	26.37	11.59	13.55	8.76	8.54	8.86	9.10	8.18	8.43
WEIGHTED % COLD STARTS	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	2.98	3.77	3.77	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
ADDED IDLE ADJUSTMENT, GM/MI	0.41	0.33	3.43	0.04	2.62	2.92	0.50	1.38	1.04	0.86	1.15	1.48	0.66	0.79
ADJUSTED EMISSION RATE, GM/MI	4.18	4.10	7.20	3.02	6.39	6.69	3.48	4.36	4.02	3.84	4.13	4.46	3.64	3.77
ADJUSTMENT FACTOR, % INCREASE	11.0%	8.9%	91.1%	1.5%	69.4%	77.5%	16.8%	46.2%	35.1%	28.8%	38.5%	49.7%	22.3%	26.5%

TABLE M-5. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT FREEWAY TRAFFIC IN 2010

INPUT VARIABLES	880-12	980-1	980-2	980-3	980-4	980-5	980-6	980-7	SR 24	580-1	580-2	580-3	580-4
SPEED (MPH) FOR BASE EMISSION RATE	25	25	25	25	25	25	25	25	25	25	25	25	25
LINK LENGTH, FEET	1,761	635	509	1,608	1,869	513	1,486	2,218	1,414	1,057	933	3,017	1,233
DELAY PER VEHICLE, SECONDS OF IDLE	35	30	30	30	30	30	30	30	30	45	45	45	45
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77
100% STABILIZED 5 MPH RATE, GM/MI	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72
100% STABILIZED 16 MPH RATE, GM/MI	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
100% COLD START 16 MPH RATE, GM/MI	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96
% CATALYST COLD STARTS	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61
OUTPUT													
HOT STABILIZED IDLE RATE, GM/MIN	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
ADJUSTED COLD START 5 MPH RATE, GM/MI	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27
COLD START IDLE RATE, GM/MIN	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	6.56	2.36	1.89	5.99	6.96	1.91	5.53	8.26	5.26	3.93	3.47	11.23	4.59
REQUIRED EXTRA IDLE SECONDS	28.44	27.64	28.11	24.01	23.04	28.09	24.47	21.74	24.74	41.07	41.53	33.77	40.41
WEIGHTED % COLD STARTS	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77
ADDED IDLE ADJUSTMENT, GM/MI	1.75	4.70	5.97	1.61	1.33	5.92	1.78	1.06	1.89	4.20	4.81	1.21	3.54
ADJUSTED EMISSION RATE, GM/MI	5.52	8.47	9.74	5.38	5.10	9.69	5.55	4.83	5.66	7.97	8.58	4.98	7.31
ADJUSTMENT FACTOR, % INCREASE	46.3%	124.8%	158.3%	42.8%	35.4%	157.0%	47.2%	28.1%	50.2%	111.4%	127.6%	32.1%	94.0%

TABLE M-6. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: VISION 2000 PLAN FREEWAY TRAFFIC IN 2010

INPUT VARIABLES	80-1	80-2	80-3	880-1	880-2	880-3	880-4	880-5	880-6	880-7	880-8	880-9	880-10	880-11
SPEED (MPH) FOR BASE EMISSION RATE	25	25	25	35	25	25	35	35	35	35	35	35	35	35
LINK LENGTH, FEET	6,625	2,936	2,113	2,826	1,074	976	2,507	1,063	907	1,075	836	664	1,333	1,154
DELAY PER VEHICLE, SECONDS OF IDLE	50	20	75	5	30	30	15	15	10	10	10	10	10	15
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	2.98	3.77	3.77	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
100% STABILIZED 5 MPH RATE, GM/MI	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72
100% STABILIZED 16 MPH RATE, GM/MI	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
100% COLD START 16 MPH RATE, GM/MI	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96
% CATALYST COLD STARTS	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61
OUTPUT														
HOT STABILIZED IDLE RATE, GM/MIN	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
ADJUSTED COLD START 5 MPH RATE, GM/MI	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27
COLD START IDLE RATE, GM/MIN	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	13.65	6.99	13.65	13.65	6.99	6.99	6.99	6.99	6.99	6.99	6.99	6.99
IDLE SECONDS IN EMFAC/MOBILE RATES	24.66	10.93	7.87	3.85	4.00	3.63	3.41	1.45	1.24	1.46	1.14	0.90	1.82	1.57
REQUIRED EXTRA IDLE SECONDS	25.34	9.07	67.13	1.15	26.00	26.37	11.59	13.55	8.76	8.54	8.86	9.10	8.18	13.43
WEIGHTED % COLD STARTS	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	2.98	3.77	3.77	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
ADDED IDLE ADJUSTMENT, GM/MI	0.41	0.33	3.43	0.04	2.62	2.92	0.50	1.38	1.04	0.86	1.15	1.48	0.66	1.26
ADJUSTED EMISSION RATE, GM/MI	4.18	4.10	7.20	3.02	6.39	6.69	3.48	4.36	4.02	3.84	4.13	4.46	3.64	4.24
ADJUSTMENT FACTOR, % INCREASE	11.0%	8.9%	91.1%	1.5%	69.4%	77.5%	16.8%	46.2%	35.1%	28.8%	38.5%	49.7%	22.3%	42.2%

TABLE M-6. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: VISION 2000 PLAN FREEWAY TRAFFIC IN 2010

INPUT VARIABLES	880-12	980-1	980-2	980-3	980-4	980-5	980-6	980-7	SR 24	580-1	580-2	580-3	580-4
SPEED (MPH) FOR BASE EMISSION RATE	25	25	25	25	25	25	25	25	25	25	25	25	25
LINK LENGTH, FEET	1,761	635	509	1,608	1,869	513	1,486	2,218	1,414	1,057	933	3,017	1,233
DELAY PER VEHICLE, SECONDS OF IDLE	45	30	30	30	30	30	30	30	30	45	45	45	45
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77
100% STABILIZED 5 MPH RATE, GM/MI	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72
100% STABILIZED 16 MPH RATE, GM/MI	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
100% COLD START 16 MPH RATE, GM/MI	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42	17.42
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96	7.96
% CATALYST COLD STARTS	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61
OUTPUT													
HOT STABILIZED IDLE RATE, GM/MIN	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
ADJUSTED COLD START 5 MPH RATE, GM/MI	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27	40.27
COLD START IDLE RATE, GM/MIN	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557	3.3557
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	6.56	2.36	1.89	5.99	6.96	1.91	5.53	8.26	5.26	3.93	3.47	11.23	4.59
REQUIRED EXTRA IDLE SECONDS	38.44	27.64	28.11	24.01	23.04	28.09	24.47	21.74	24.74	41.07	41.53	33.77	40.41
WEIGHTED % COLD STARTS	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58	10.58
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284	1.2284
BASE EMISSION RATE, GM/MI	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77
ADDED IDLE ADJUSTMENT, GM/MI	2.36	4.70	5.97	1.61	1.33	5.92	1.78	1.06	1.89	4.20	4.81	1.21	3.54
ADJUSTED EMISSION RATE, GM/MI	6.13	8.47	9.74	5.38	5.10	9.69	5.55	4.83	5.66	7.97	8.58	4.98	7.31
ADJUSTMENT FACTOR, % INCREASE	62.6%	124.8%	158.3%	42.8%	35.4%	157.0%	47.2%	28.1%	50.2%	111.4%	127.6%	32.1%	94.0%

TABLE M-7. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	MAR-1	MAR-2	MAR -3	MAR-4	7TH-1	7TH-2	7TH-3	7TH-4	7TH-EXT	7TH-6	7TH-7 M	HRBR-1
SPEED (MPH) FOR BASE EMISSION RATE	10	25	25	10	25	25	25	25	10	25	15	25
LINK LENGTH, FEET	496	1,811	1,473	562	1,193	731	1,075	587	518	1,387	1,433	1,032
DELAY PER VEHICLE, SECONDS OF IDLE	19	10	20	11	5	5	5	5	19	5	19	5
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	6.17	6.17	6.17	6.17	12.02	6.17	9.02	6.17
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	32.99	13.65	13.65	32.99	13.65	13.65	13.65	13.65	32.99	13.65	25.39	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	11.16	6.74	5.48	12.64	4.44	2.72	4.00	2.19	11.65	5.16	16.54	3.80
REQUIRED EXTRA IDLE SECONDS	7.84	3.26	14.52	0.00	0.56	2.28	1.00	2.81	7.35	0.00	2.46	1.20
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	6.17	6.17	6.17	6.17	12.02	6.17	9.02	6.17
ADDED IDLE ADJUSTMENT, GM/MI	2.25	0.26	1.41	0.00	0.07	0.44	0.13	0.68	2.02	0.00	0.24	0.17
ADJUSTED EMISSION RATE, GM/MI	14.27	6.43	7.58	12.02	6.24	6.61	6.30	6.85	14.04	6.17	9.26	6.34
ADJUSTMENT FACTOR, % INCREASE	18.8%	4.2%	22.8%	0.0%	1.1%	7.2%	2.1%	11.1%	16.8%	0.0%	2.7%	2.7%

TABLE M-7. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	M HRBR-2	M HRBR-3	M HRBR-4	M HRBR-5	ADELIN-1	ADELIN-2	UNION-1	UNION-2	FRNTG-1	FRNTG-2	GRAND-1	GRAND-2
SPEED (MPH) FOR BASE EMISSION RATE	25	25	15	10	25	10	10	25	25	25	25	10
LINK LENGTH, FEET	1,910	2,361	2,333	398	503	478	478	503	1,585	900	1,478	1,019
DELAY PER VEHICLE, SECONDS OF IDLE	5	5	19	38	5	20	16	5	5	5	5	22
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	25.39	32.99	13.65	32.99	32.99	13.65	13.65	13.65	13.65	32.99
IDLE SECONDS IN EMFAC/MOBILE RATES	7.11	8.79	26.92	8.95	1.87	10.75	10.75	1.87	5.90	3.35	5.50	22.92
REQUIRED EXTRA IDLE SECONDS	0.00	0.00	0.00	29.05	3.13	9.25	5.25	3.13	0.00	1.65	0.00	0.00
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
ADDED IDLE ADJUSTMENT, GM/MI	0.00	0.00	0.00	10.41	0.89	2.76	1.57	0.89	0.00	0.26	0.00	0.00
ADJUSTED EMISSION RATE, GM/MI	6.17	6.17	9.02	22.43	7.06	14.78	13.59	7.06	6.17	6.43	6.17	12.02
ADJUSTMENT FACTOR, % INCREASE	0.0%	0.0%	0.0%	86.6%	14.4%	23.0%	13.0%	14.4%	0.0%	4.2%	0.0%	0.0%

TABLE M-8. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE A SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	MAR-1	MAR-2	MAR -3	MAR-4	7TH-1	7TH-2	7TH-3	7TH-4	7TH-EXT	7TH-6	7TH-7 M	HRBR-1
SPEED (MPH) FOR BASE EMISSION RATE	10	25	25	10	15	25	25	25	10	25	15	25
LINK LENGTH, FEET	496	1,811	1,473	562	1,193	731	1,075	587	518	1,387	1,433	1,032
DELAY PER VEHICLE, SECONDS OF IDLE	19	10	20	14	16	5	5	5	14	5	18	5
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	32.99	13.65	13.65	32.99	25.39	13.65	13.65	13.65	32.99	13.65	25.39	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	11.16	6.74	5.48	12.64	13.77	2.72	4.00	2.19	11.65	5.16	16.54	3.80
REQUIRED EXTRA IDLE SECONDS	7.84	3.26	14.52	1.36	2.23	2.28	1.00	2.81	2.35	0.00	1.46	1.20
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
ADDED IDLE ADJUSTMENT, GM/MI	2.25	0.26	1.41	0.34	0.27	0.44	0.13	0.68	0.65	0.00	0.15	0.17
ADJUSTED EMISSION RATE, GM/MI	14.27	6.43	7.58	12.36	9.29	6.61	6.30	6.85	12.67	6.17	9.17	6.34
ADJUSTMENT FACTOR, % INCREASE	18.8%	4.2%	22.8%	2.9%	3.0%	7.2%	2.1%	11.1%	5.4%	0.0%	1.6%	2.7%

TABLE M-8. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE A SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	M HRBR-2	M HRBR-3	M HRBR-4	M HRBR-5	ADELIN-1	ADELIN-2	UNION-1	UNION-2	FRNTG-1	FRNTG-2	GRAND-1	GRAND-2
SPEED (MPH) FOR BASE EMISSION RATE	25	25	15	10	25	10	10	25	25	25	25	10
LINK LENGTH, FEET	1,910	2,361	2,333	398	503	478	478	503	1,585	900	1,478	1,019
DELAY PER VEHICLE, SECONDS OF IDLE	5	5	32	64	5	30	17	5	5	5	5	22
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	25.39	32.99	13.65	32.99	32.99	13.65	13.65	13.65	13.65	32.99
IDLE SECONDS IN EMFAC/MOBILE RATES	7.11	8.79	26.92	8.95	1.87	10.75	10.75	1.87	5.90	3.35	5.50	22.92
REQUIRED EXTRA IDLE SECONDS	0.00	0.00	5.08	55.05	3.13	19.25	6.25	3.13	0.00	1.65	0.00	0.00
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
ADDED IDLE ADJUSTMENT, GM/MI	0.00	0.00	0.31	19.72	0.89	5.74	1.86	0.89	0.00	0.26	0.00	0.00
ADJUSTED EMISSION RATE, GM/MI	6.17	6.17	9.33	31.74	7.06	17.76	13.88	7.06	6.17	6.43	6.17	12.02
ADJUSTMENT FACTOR, % INCREASE	0.0%	0.0%	3.4%	164.1%	14.4%	47.8%	15.5%	14.4%	0.0%	4.2%	0.0%	0.0%

TABLE M-9. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE B SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	MAR-1	MAR-2	MAR -3	MAR-4	7TH-1	7TH-2	7TH-3	7TH-4	7TH-EXT	7TH-6	7TH-7	M HRBR-1
SPEED (MPH) FOR BASE EMISSION RATE	10	25	25	10	15	25	25	25	10	25	15	25
LINK LENGTH, FEET	496	1,811	1,473	562	1,193	731	1,075	587	518	1,387	1,433	1,032
DELAY PER VEHICLE, SECONDS OF IDLE	19	10	22	20	10	5	5	5	20	5	18	5
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	32.99	13.65	13.65	32.99	25.39	13.65	13.65	13.65	32.99	13.65	25.39	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	11.16	6.74	5.48	12.64	13.77	2.72	4.00	2.19	11.65	5.16	16.54	3.80
REQUIRED EXTRA IDLE SECONDS	7.84	3.26	16.52	7.36	0.00	2.28	1.00	2.81	8.35	0.00	1.46	1.20
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
ADDED IDLE ADJUSTMENT, GM/MI	2.25	0.26	1.60	1.87	0.00	0.44	0.13	0.68	2.30	0.00	0.15	0.17
ADJUSTED EMISSION RATE, GM/MI	14.27	6.43	7.77	13.89	9.02	6.61	6.30	6.85	14.32	6.17	9.17	6.34
ADJUSTMENT FACTOR, % INCREASE	18.8%	4.2%	25.9%	15.5%	0.0%	7.2%	2.1%	11.1%	19.1%	0.0%	1.6%	2.7%

TABLE M-9. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE B SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	M HRBR-2	M HRBR-3	M HRBR-4	M HRBR-5	ADELIN-1	ADELIN-2	UNION-1	UNION-2	FRNTG-1	FRNTG-2	GRAND-1	GRAND-2
SPEED (MPH) FOR BASE EMISSION RATE	25	25	15	10	25	10	10	25	25	25	25	10
LINK LENGTH, FEET	1,910	2,361	2,333	398	503	478	478	503	1,585	900	1,478	1,019
DELAY PER VEHICLE, SECONDS OF IDLE	5	5	32	64	5	21	16	5	5	5	5	22
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	25.39	32.99	13.65	32.99	32.99	13.65	13.65	13.65	13.65	32.99
IDLE SECONDS IN EMFAC/MOBILE RATES	7.11	8.79	26.92	8.95	1.87	10.75	10.75	1.87	5.90	3.35	5.50	22.92
REQUIRED EXTRA IDLE SECONDS	0.00	0.00	5.08	55.05	3.13	10.25	5.25	3.13	0.00	1.65	0.00	0.00
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
ADDED IDLE ADJUSTMENT, GM/MI	0.00	0.00	0.31	19.72	0.89	3.06	1.57	0.89	0.00	0.26	0.00	0.00
ADJUSTED EMISSION RATE, GM/MI	6.17	6.17	9.33	31.74	7.06	15.08	13.59	7.06	6.17	6.43	6.17	12.02
ADJUSTMENT FACTOR, % INCREASE	0.0%	0.0%	3.4%	164.1%	14.4%	25.4%	13.0%	14.4%	0.0%	4.2%	0.0%	0.0%

TABLE M-10. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE C SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	MAR-1	MAR-2	MAR -3	MAR-4	7TH-1	7TH-2	7TH-3	7TH-4	7TH-EXT	7TH-6	7TH-7 M	HRBR-1
SPEED (MPH) FOR BASE EMISSION RATE	10	25	25	10	15	25	25	25	10	25	15	25
LINK LENGTH, FEET	496	1,811	1,473	562	1,193	731	1,075	587	518	1,387	1,433	1,032
DELAY PER VEHICLE, SECONDS OF IDLE	19	9	20	13	21	5	5	5	29	5	18	5
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	32.99	13.65	13.65	32.99	25.39	13.65	13.65	13.65	32.99	13.65	25.39	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	11.16	6.74	5.48	12.64	13.77	2.72	4.00	2.19	11.65	5.16	16.54	3.80
REQUIRED EXTRA IDLE SECONDS	7.84	2.26	14.52	0.36	7.23	2.28	1.00	2.81	17.35	0.00	1.46	1.20
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
ADDED IDLE ADJUSTMENT, GM/MI	2.25	0.18	1.41	0.09	0.86	0.44	0.13	0.68	4.78	0.00	0.15	0.17
ADJUSTED EMISSION RATE, GM/MI	14.27	6.35	7.58	12.11	9.88	6.61	6.30	6.85	16.80	6.17	9.17	6.34
ADJUSTMENT FACTOR, % INCREASE	18.8%	2.9%	22.8%	0.8%	9.6%	7.2%	2.1%	11.1%	39.7%	0.0%	1.6%	2.7%

TABLE M-10. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE C SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	M HRBR-2	M HRBR-3	M HRBR-4	M HRBR-5	ADELIN-1	ADELIN-2	UNION-1	UNION-2	FRNTG-1	FRNTG-2	GRAND-1	GRAND-2
SPEED (MPH) FOR BASE EMISSION RATE	25	25	15	10	25	10	10	25	25	25	25	10
LINK LENGTH, FEET	1,910	2,361	2,333	398	503	478	478	503	1,585	900	1,478	1,019
DELAY PER VEHICLE, SECONDS OF IDLE	5	5	46	92	5	22	16	5	5	5	5	22
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	25.39	32.99	13.65	32.99	32.99	13.65	13.65	13.65	13.65	32.99
IDLE SECONDS IN EMFAC/MOBILE RATES	7.11	8.79	26.92	8.95	1.87	10.75	10.75	1.87	5.90	3.35	5.50	22.92
REQUIRED EXTRA IDLE SECONDS	0.00	0.00	19.08	83.05	3.13	11.25	5.25	3.13	0.00	1.65	0.00	0.00
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
ADDED IDLE ADJUSTMENT, GM/MI	0.00	0.00	1.17	29.75	0.89	3.36	1.57	0.89	0.00	0.26	0.00	0.00
ADJUSTED EMISSION RATE, GM/MI	6.17	6.17	10.19	41.77	7.06	15.38	13.59	7.06	6.17	6.43	6.17	12.02
ADJUSTMENT FACTOR, % INCREASE	0.0%	0.0%	12.9%	247.5%	14.4%	27.9%	13.0%	14.4%	0.0%	4.2%	0.0%	0.0%

TABLE M-11. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE D SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	MAR-1	MAR-2	MAR -3	MAR-4	7TH-1	7TH-2	7TH-3	7TH-4	7TH-EXT	7TH-6	7TH-7	M HRBR-1
SPEED (MPH) FOR BASE EMISSION RATE	10	25	25	10	15	25	25	25	10	25	15	25
LINK LENGTH, FEET	496	1,811	1,473	562	1,193	731	1,075	587	518	1,387	1,433	1,032
DELAY PER VEHICLE, SECONDS OF IDLE	19	9	20	14	17	5	5	5	15	5	19	5
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	32.99	13.65	13.65	32.99	25.39	13.65	13.65	13.65	32.99	13.65	25.39	13.65
IDLE SECONDS IN EMFAC/MOBILE RATES	11.16	6.74	5.48	12.64	13.77	2.72	4.00	2.19	11.65	5.16	16.54	3.80
REQUIRED EXTRA IDLE SECONDS	7.84	2.26	14.52	1.36	3.23	2.28	1.00	2.81	3.35	0.00	2.46	1.20
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	12.02	6.17	6.17	12.02	9.02	6.17	6.17	6.17	12.02	6.17	9.02	6.17
ADDED IDLE ADJUSTMENT, GM/MI	2.25	0.18	1.41	0.34	0.39	0.44	0.13	0.68	0.92	0.00	0.24	0.17
ADJUSTED EMISSION RATE, GM/MI	14.27	6.35	7.58	12.36	9.41	6.61	6.30	6.85	12.94	6.17	9.26	6.34
ADJUSTMENT FACTOR, % INCREASE	18.8%	2.9%	22.8%	2.9%	4.3%	7.2%	2.1%	11.1%	7.7%	0.0%	2.7%	2.7%

TABLE M-11. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE D SURFACE STREET TRAFFIC IN 2010

INPUT VARIABLES	M HRBR-2	M HRBR-3	M HRBR-4	M HRBR-5	ADELIN-1	ADELIN-2	UNION-1	UNION-2	FRNTG-1	FRNTG-2	GRAND-1	GRAND-2
SPEED (MPH) FOR BASE EMISSION RATE	25	25	15	10	25	10	10	25	25	25	25	10
LINK LENGTH, FEET	1,910	2,361	2,333	398	503	478	478	503	1,585	900	1,478	1,019
DELAY PER VEHICLE, SECONDS OF IDLE	5	5	36	72	5	31	17	5	5	5	5	23
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
100% STABILIZED 5 MPH RATE, GM/MI	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91	15.91
100% STABILIZED 16 MPH RATE, GM/MI	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
100% COLD START 16 MPH RATE, GM/MI	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96	11.96
% CATALYST VEHICLES	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92	98.92
% NON-CATALYST COLD STARTS	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85	25.85
% CATALYST COLD STARTS	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76	34.76
OUTPUT												
HOT STABILIZED IDLE RATE, GM/MIN	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
ADJUSTED COLD START 5 MPH RATE, GM/MI	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10	26.10
COLD START IDLE RATE, GM/MIN	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752	2.1752
% IDLE TIME IN EMFAC/MOBILE RATES	13.65	13.65	25.39	32.99	13.65	32.99	32.99	13.65	13.65	13.65	13.65	32.99
IDLE SECONDS IN EMFAC/MOBILE RATES	7.11	8.79	26.92	8.95	1.87	10.75	10.75	1.87	5.90	3.35	5.50	22.92
REQUIRED EXTRA IDLE SECONDS	0.00	0.00	9.08	63.05	3.13	20.25	6.25	3.13	0.00	1.65	0.00	0.08
WEIGHTED % COLD STARTS	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66
WEIGHTED COLD/HOT IDLE RATE, GM/MIN	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202	1.6202
BASE EMISSION RATE, GM/MI	6.17	6.17	9.02	12.02	6.17	12.02	12.02	6.17	6.17	6.17	6.17	12.02
ADDED IDLE ADJUSTMENT, GM/MI	0.00	0.00	0.55	22.59	0.89	6.04	1.86	0.89	0.00	0.26	0.00	0.01
ADJUSTED EMISSION RATE, GM/MI	6.17	6.17	9.57	34.61	7.06	18.06	13.88	7.06	6.17	6.43	6.17	12.03
ADJUSTMENT FACTOR, % INCREASE	0.0%	0.0%	6.1%	187.9%	14.4%	50.2%	15.5%	14.4%	0.0%	4.2%	0.0%	0.1%

TABLE M-12. VEHICLE TRAVEL TIME PATTERNS AND OPERATING MODES FOR VISION 2000 ALTERNATIVES IN 2010

TRIP TYPE	PORTION OF TOTAL TRIPS	DISTRIBUTION OF TRAVEL BY TRIP DURATION INTERVALS: UNDER 8 MINUTES	8 - 10 MINUTES	10 - 15 MINUTES	15 - 20 MINUTES	20 - 25 MINUTES	25 - 30 MINUTES	30 - 35 MINUTES	35 - 40 MINUTES	40 - 45 MINUTES	45 - 50 MINUTES	50 - 120 MINUTES
H-W	40.00%	10.00%	5.00%	15.00%	20.00%	15.00%	10.00%	5.00%	5.00%	5.00%	5.00%	5.00%
H-S	0.00%	35.00%	25.00%	15.00%	12.00%	6.00%	2.00%	1.00%	1.00%	1.00%	1.00%	1.00%
H-O	5.00%	20.00%	20.00%	25.00%	15.00%	10.00%	5.00%	1.00%	1.00%	1.00%	1.00%	1.00%
O-W	50.00%	15.00%	10.00%	15.00%	20.00%	10.00%	10.00%	5.00%	5.00%	3.00%	3.00%	4.00%
O-O	5.00%	17.50%	20.00%	25.00%	15.00%	10.00%	5.00%	2.50%	1.00%	1.00%	1.00%	2.00%
INT TRK	0.00%	85.00%	10.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
REG TRK	0.00%	5.00%	5.00%	5.00%	10.00%	20.00%	20.00%	10.00%	10.00%	5.00%	5.00%	5.00%
EXT TRK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	20.00%	80.00%
SUM/MEAN	100.00%	13.38%	9.00%	16.00%	19.50%	12.00%	9.50%	4.68%	4.60%	3.60%	3.60%	4.15%

CUMULATIVE TRIP OPERATING MODES (FOR TOTAL EMISSIONS ANALYSES):

TRIP TYPE	MEAN TRAVEL TIME (MINUTES)	MEAN COLD START MODE	MEAN HOT START MODE	MEAN HOT STABLE MODE	NONCAT COLD START MODE	NONCAT HOT START MODE	CATALYST COLD START MODE	CATALYST HOT START MODE
H-W	24.75	44.52%	3.61%	51.86%	38.53%	9.61%	44.59%	3.55%
H-S	12.50	41.31%	37.10%	21.59%	26.35%	52.06%	41.47%	36.94%
H-O	14.73	47.21%	22.13%	30.66%	30.08%	39.26%	47.39%	21.95%
O-W	21.70	34.39%	20.72%	44.89%	22.45%	32.66%	34.52%	20.59%
O-O	15.93	19.31%	48.03%	32.66%	5.56%	61.79%	19.46%	47.88%
INT TRK	6.20	76.32%	21.51%	2.17%	59.33%	38.50%	76.51%	21.32%
REG TRK	28.85	26.87%	12.03%	61.11%	19.70%	19.19%	26.95%	11.95%
EXT TRK	77.50	8.21%	4.59%	87.19%	5.11%	7.70%	8.25%	4.56%
MEANS	22.28	38.33%	15.31%	46.36%	28.42%	25.23%	38.44%	15.21%

TABLE M-13. PORT OF OAKLAND/FISCO EMPLOYEE COMMUTE TRAVEL PATTERNS

RESIDENCY	EMPLOYEE TRIPS	PERCENT OF TRIPS	BAY AREA DISTANCE (MILES)	BAY AREA MILEAGE INCREMENT
OAKLAND/PIEDMONT	683	30.77%	5.05	1.55
ALAMEDA	24	1.08%	5.92	0.06
BERKELEY/ALBANY/EMERYVILLE	22	0.99%	6.51	0.06
SAN LEANDRO/SAN LORENZO	89	4.01%	14.20	0.57
HAYWARD/CASTRO VALLEY	235	10.59%	20.12	2.13
UNION CITY	23	1.04%	21.90	0.23
FREMONT/NEWARK	38	1.71%	24.86	0.43
DUBLIN/LIVERMORE/PLEASANTON	23	1.04%	31.96	0.33
SAN PABLO/PINOLE/RODEO	43	1.94%	14.20	0.28
RICHMOND/EL CERRITO	157	7.07%	10.06	0.71
PITTSBURG/ANTIOCH	114	5.14%	27.23	1.40
CONCORD/MARTINEZ	28	1.26%	24.86	0.31
ORINDA/LAFAYETTE/WALNUT CREEK	8	0.36%	15.39	0.06
ALAMO/DANVILLE/SAN RAMON	5	0.23%	24.86	0.06
SAN FRANCISCO	111	5.00%	13.02	0.65
SAN FRANCISCO LONGSHORE TRIPS	112	5.05%	13.02	0.66
SAN MATEO COUNTY	138	6.22%	21.31	1.32
SANTA CLARA COUNTY	82	3.69%	66.29	2.45
MARIN COUNTY	15	0.68%	22.49	0.15
NAPA/SONOMA COUNTIES	34	1.53%	43.80	0.67
SOLANO COUNTY	236	10.63%	36.70	3.90
TOTALS	2,220	100.00%		17.98

Notes: Residency distribution data provided by Dowling Associates.
All distances estimated by map-measurer tracing of higway routes on a 1:36,750 scale map for Oakland, and 1:150,000 scale maps for other locations.

TABLE M-14. PORT OF OAKLAND TRUCK TRAVEL PATTERNS WITHIN THE BAAQMD

DESTINATION	TRUCK TRIPS	PERCENT OF TRIPS	BAY AREA DISTANCE (MILES)	BAY AREA MILEAGE INCREMENT
OAKLAND	892	32.81%	6.51	2.14
ALAMEDA	11	0.40%	5.92	0.02
BERKELEY/ALBANY/EMERYVILLE	15	0.55%	6.51	0.04
SAN LEANDRO/SAN LORENZO	103	3.79%	14.20	0.54
HAYWARD/CASTRO VALLEY	95	3.49%	20.12	0.70
UNION CITY	43	1.58%	21.90	0.35
FREMONT/NEWARK	35	1.29%	24.86	0.32
DUBLIN/LIVERMORE/PLEASANTON	5	0.18%	31.96	0.06
SAN PABLO/PINOLE/RODEO	17	0.63%	14.20	0.09
RICHMOND	209	7.69%	10.06	0.77
PITTSBURG/ANTIOCH	19	0.70%	27.23	0.19
CONCORD/MARTINEZ	20	0.74%	24.86	0.18
ALAMO/DANVILLE/SAN RAMON	5	0.18%	24.86	0.05
SAN FRANCISCO	165	6.07%	13.02	0.79
SAN MATEO COUNTY	57	2.10%	21.31	0.45
SANTA CLARA COUNTY	136	5.00%	66.29	3.32
MARIN COUNTY	8	0.29%	22.49	0.07
NAPA/SONOMA COUNTIES	34	1.25%	43.80	0.55
SOLANO COUNTY	61	2.24%	36.70	0.82
SACRAMENTO AREA	165	6.07%	49.72	3.02
SAN JOAQUIN/STANISLAUS COUNTIES	227	8.35%	45.57	3.80
FRESNO/MERCED/MADERA COUNTIES	164	6.03%	45.57	2.75
KERN/KINGS/TULARE COUNTIES	20	0.74%	45.57	0.34
SANTA CRUZ COUNTY	7	0.26%	55.63	0.14
OTHER CALIFORNIA	105	3.86%	45.57	1.76
OTHER STATES	101	3.71%	49.72	1.85
TOTALS	2,719	100.00%		25.09
BAY AREA SUBTOTAL:		70.98%		16.11
SACRAMENTO:		6.07%		49.72
SAN JOAQUIN VALLEY:		15.12%		45.57
CENTRAL COAST:		0.26%		55.63
OTHER CALIFORNIA:		3.86%		45.57
OTHER STATES:		3.71%		49.72

Notes: Truck travel patterns from Port of Oakland 1993 truck survey.
All distances estimated by map-measurer tracing of higway routes on 1:150,000 scale maps.

TABLE M-15. SUMMER REACTIVE ORGANIC COMPOUND AND NITROGEN OXIDE EMISSION RATES FOR 2010

Land Use	Trip Purpose	Exhaust ROG Emission Rates (grams/mile) by Speed (mph) 15	25	35	45	55	Hot Soak ROG Rates (grams/trip)	Other Evap ROG Rates (gm/veh-day)	Exhaust NOx Emission Rates (grams/mile) by Speed (mph) 15	25	35	45	55
FISCO AREAS 1, 2, & 3	H-W	0.44	0.30	0.27	0.24	0.25	0.21	1.21	0.51	0.42	0.41	0.48	0.62
	H-S	0.45	0.31	0.27	0.25	0.26	0.21	1.21	0.57	0.48	0.47	0.53	0.67
	H-O	0.46	0.32	0.29	0.26	0.27	0.21	1.21	0.56	0.47	0.46	0.53	0.66
	O-W	0.41	0.27	0.24	0.22	0.22	0.21	1.21	0.51	0.42	0.41	0.48	0.61
	O-O	0.37	0.23	0.20	0.18	0.19	0.21	1.21	0.51	0.42	0.41	0.47	0.61
FISCO AREAS 4 & 5	H-W	0.44	0.30	0.27	0.24	0.25	0.21	1.21	0.51	0.42	0.41	0.48	0.62
	H-S	0.45	0.31	0.27	0.25	0.26	0.21	1.21	0.57	0.48	0.47	0.53	0.67
	H-O	0.46	0.32	0.29	0.26	0.27	0.21	1.21	0.56	0.47	0.46	0.53	0.66
	O-W	0.41	0.27	0.24	0.22	0.22	0.21	1.21	0.51	0.42	0.41	0.48	0.61
	O-O	0.37	0.23	0.20	0.18	0.19	0.21	1.21	0.51	0.42	0.41	0.47	0.61
JIT AREA	H-W	0.44	0.30	0.27	0.24	0.25	0.21	1.21	0.51	0.42	0.41	0.48	0.62
	H-S	0.45	0.31	0.27	0.25	0.26	0.21	1.21	0.57	0.48	0.47	0.53	0.67
	H-O	0.46	0.32	0.29	0.26	0.27	0.21	1.21	0.56	0.47	0.46	0.53	0.66
	O-W	0.41	0.27	0.24	0.22	0.22	0.21	1.21	0.51	0.42	0.41	0.48	0.61
	O-O	0.37	0.23	0.20	0.18	0.19	0.21	1.21	0.51	0.42	0.41	0.47	0.61
SPRR TERMINAL	H-W	0.44	0.30	0.27	0.24	0.25	0.21	1.21	0.51	0.42	0.41	0.48	0.62
	H-S	0.45	0.31	0.27	0.25	0.26	0.21	1.21	0.57	0.48	0.47	0.53	0.67
	H-O	0.46	0.32	0.29	0.26	0.27	0.21	1.21	0.56	0.47	0.46	0.53	0.66
	O-W	0.41	0.27	0.24	0.22	0.22	0.21	1.21	0.51	0.42	0.41	0.48	0.61
	O-O	0.37	0.23	0.20	0.18	0.19	0.21	1.21	0.51	0.42	0.41	0.47	0.61
UP RAIL TERMINAL	H-W	0.44	0.30	0.27	0.24	0.25	0.21	1.21	0.51	0.42	0.41	0.48	0.62
	H-S	0.45	0.31	0.27	0.25	0.26	0.21	1.21	0.57	0.48	0.47	0.53	0.67
	H-O	0.46	0.32	0.29	0.26	0.27	0.21	1.21	0.56	0.47	0.46	0.53	0.66
	O-W	0.41	0.27	0.24	0.22	0.22	0.21	1.21	0.51	0.42	0.41	0.48	0.61
	O-O	0.37	0.23	0.20	0.18	0.19	0.21	1.21	0.51	0.42	0.41	0.47	0.61

TABLE M-15. SUMMER REACTIVE ORGANIC COMPOUND AND NITROGEN OXIDE EMISSION RATES FOR 2010

		Exhaust ROG Emission Rates (grams/mile) by Speed (mph)					Hot Soak ROG Rates	Other Evap ROG Rates	Exhaust NOx Emission Rates (grams/mile) by Speed (mph)				
Land Use	Trip Purpose	15	25	35	45	55	(grams/trip)	(gm/veh-day)	15	25	35	45	55
MARINE TERMINAL AREAS	H-W	0.44	0.30	0.27	0.24	0.25	0.21	1.21	0.51	0.42	0.41	0.48	0.62
	H-S	0.45	0.31	0.27	0.25	0.26	0.21	1.21	0.57	0.48	0.47	0.53	0.67
	H-O	0.46	0.32	0.29	0.26	0.27	0.21	1.21	0.56	0.47	0.46	0.53	0.66
	O-W	0.41	0.27	0.24	0.22	0.22	0.21	1.21	0.51	0.42	0.41	0.48	0.61
	O-O	0.37	0.23	0.20	0.18	0.19	0.21	1.21	0.51	0.42	0.41	0.47	0.61
ON-SITE TRUCK TRIPS	O-O	3.43	2.36	1.76	1.44	1.29	0.03	0.21	11.98	9.88	9.38	10.25	12.87
BAY AREA TRUCK TRIPS	O-O	3.43	2.36	1.76	1.44	1.29	0.03	0.21	11.98	9.88	9.38	10.25	12.87
LONG DISTANCE TRUCK TRIPS	O-O	3.43	2.36	1.76	1.44	1.29	0.03	0.21	11.98	9.88	9.38	10.25	12.87
PORT OF RICHMOND TRUCKS	O-O	3.43	2.36	1.76	1.44	1.29	0.03	0.21	11.98	9.88	9.38	10.25	12.87

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
H-W = home - work trips
H-S = home - shopping trips
H-O = home - other trips
O-W = other - work trips
O-O = other - other trips
Emission rates for California vehicles were calculated for 2010 using the California Air Resources Board EMFAC7F computer program for exhaust emission rates, with diurnal and resting loss emissions calculated using data from the EMFAC7F model and calculation procedures presented in documentation reports for the EMFAC7EP and BURDEN7C models (California Air Resources Board 1991, 1992, 1993).
Exhaust emission rates are based on an air temperature of 70 degrees Fahrenheit; diurnal emission rates are based on a summer day temperature profile (55-80 degree Fahrenheit range).
Exhaust emission rates incorporate cold start and hot start rate increments based on aggregate start mode travel fractions calculated from assumed trip-type travel time frequency distributions.
Emission rates for employment-based traffic includes only passenger vehicles.
Emission rates for internal and external truck traffic includes only heavy trucks (95% diesel, 5% gasoline).

TABLE M-16. VEHICLE-RELATED PM10 AND SUMMER/WINTER CARBON MONOXIDE EMISSION RATES FOR 2010

Land Use	Trip Purpose	Exhaust PM10 Rate (gm/mile)	Entrained PM10 Rate (gm/mile)	Summer CO Emission Rates (gm/mi) by Speed (mph)					Winter CO Emission Rates (gm/mi) by Speed (mph)				
				15	25	35	45	55	15	25	35	45	55
FISCO AREAS 1, 2, & 3	H-W	0.01	3.10	5.07	3.95	3.51	3.36	3.68	6.30	5.07	4.57	4.40	4.76
	H-S	0.01	3.10	5.24	4.12	3.68	3.53	3.85	6.48	5.24	4.74	4.58	4.93
	H-O	0.01	3.10	5.37	4.25	3.81	3.66	3.98	6.69	5.46	4.96	4.79	5.14
	O-W	0.01	3.10	4.77	3.65	3.21	3.06	3.38	5.84	4.60	4.11	3.94	4.29
	O-O	0.01	3.10	4.34	3.23	2.78	2.63	2.95	5.17	3.94	3.44	3.27	3.63
FISCO AREAS 4 & 5	H-W	0.01	3.10	5.07	3.95	3.51	3.36	3.68	6.30	5.07	4.57	4.40	4.76
	H-S	0.01	3.10	5.24	4.12	3.68	3.53	3.85	6.48	5.24	4.74	4.58	4.93
	H-O	0.01	3.10	5.37	4.25	3.81	3.66	3.98	6.69	5.46	4.96	4.79	5.14
	O-W	0.01	3.10	4.77	3.65	3.21	3.06	3.38	5.84	4.60	4.11	3.94	4.29
	O-O	0.01	3.10	4.34	3.23	2.78	2.63	2.95	5.17	3.94	3.44	3.27	3.63
JIT AREA	H-W	0.01	3.10	5.07	3.95	3.51	3.36	3.68	6.30	5.07	4.57	4.40	4.76
	H-S	0.01	3.10	5.24	4.12	3.68	3.53	3.85	6.48	5.24	4.74	4.58	4.93
	H-O	0.01	3.10	5.37	4.25	3.81	3.66	3.98	6.69	5.46	4.96	4.79	5.14
	O-W	0.01	3.10	4.77	3.65	3.21	3.06	3.38	5.84	4.60	4.11	3.94	4.29
	O-O	0.01	3.10	4.34	3.23	2.78	2.63	2.95	5.17	3.94	3.44	3.27	3.63
SPRR TERMINAL	H-W	0.01	3.10	5.07	3.95	3.51	3.36	3.68	6.30	5.07	4.57	4.40	4.76
	H-S	0.01	3.10	5.24	4.12	3.68	3.53	3.85	6.48	5.24	4.74	4.58	4.93
	H-O	0.01	3.10	5.37	4.25	3.81	3.66	3.98	6.69	5.46	4.96	4.79	5.14
	O-W	0.01	3.10	4.77	3.65	3.21	3.06	3.38	5.84	4.60	4.11	3.94	4.29
	O-O	0.01	3.10	4.34	3.23	2.78	2.63	2.95	5.17	3.94	3.44	3.27	3.63
UP RAIL TERMINAL	H-W	0.01	3.10	5.07	3.95	3.51	3.36	3.68	6.30	5.07	4.57	4.40	4.76
	H-S	0.01	3.10	5.24	4.12	3.68	3.53	3.85	6.48	5.24	4.74	4.58	4.93
	H-O	0.01	3.10	5.37	4.25	3.81	3.66	3.98	6.69	5.46	4.96	4.79	5.14
	O-W	0.01	3.10	4.77	3.65	3.21	3.06	3.38	5.84	4.60	4.11	3.94	4.29
	O-O	0.01	3.10	4.34	3.23	2.78	2.63	2.95	5.17	3.94	3.44	3.27	3.63

TABLE M-16. VEHICLE-RELATED PM10 AND SUMMER/WINTER CARBON MONOXIDE EMISSION RATES FOR 2010

Land Use	Trip Purpose	Exhaust PM10 Rate (gm/mile)	Entrained PM10 Rate (gm/mile)	Summer CO Emission Rates (gm/mi) by Speed (mph)					Winter CO Emission Rates (gm/mi) by Speed (mph)				
				15	25	35	45	55	15	25	35	45	55
MARINE TERMINAL AREAS	H-W	0.01	3.10	5.07	3.95	3.51	3.36	3.68	6.30	5.07	4.57	4.40	4.76
	H-S	0.01	3.10	5.24	4.12	3.68	3.53	3.85	6.48	5.24	4.74	4.58	4.93
	H-O	0.01	3.10	5.37	4.25	3.81	3.66	3.98	6.69	5.46	4.96	4.79	5.14
	O-W	0.01	3.10	4.77	3.65	3.21	3.06	3.38	5.84	4.60	4.11	3.94	4.29
	O-O	0.01	3.10	4.34	3.23	2.78	2.63	2.95	5.17	3.94	3.44	3.27	3.63
ON-SITE TRUCK TRIPS	O-O	0.98	3.54	17.21	10.26	7.35	6.33	6.55	17.33	10.33	7.40	6.38	6.60
BAY AREA TRUCK TRIPS	O-O	0.98	3.54	17.21	10.26	7.35	6.33	6.55	17.33	10.33	7.40	6.38	6.60
LONG DISTANCE TRUCK TRIPS	O-O	0.98	3.54	17.21	10.26	7.35	6.33	6.55	17.33	10.33	7.40	6.38	6.60
PORT OF RICHMOND TRUCKS	O-O	0.98	3.54	17.21	10.26	7.35	6.33	6.55	17.33	10.33	7.40	6.38	6.60

Notes: PM10 = inhalable particulate matter

CO = carbon monoxide

H-W = home - work trips

H-S = home - shopping trips

H-O = home - other trips

O-W = other - work trips

O-O = other - other trips

Emission rates for California vehicles calculated for 2010 using the California Air Resources Board EMFAC7F computer program.

Entrained PM10 emission rates include tire wear plus 2.9 grams/VMT of resuspended paved roadway dust.

Summer CO emission rates based on an air temperature of 70 degrees Fahrenheit; winter CO emission rates based on an air temperature of 50 degrees Fahrenheit.

Exhaust emission rates incorporate cold start and hot start rate increments based on aggregate start mode travel fractions calculated from assumed trip-type travel time frequency distributions.

Emission rates for employment-based traffic includes only passenger vehicles.

Emission rates for internal and external truck traffic includes only heavy trucks (95% diesel, 5% gasoline).

TABLE M-17. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, NO ACTION ALTERNATIVE

Land Use or Trip Generation Category	Trip Estimate Basis		Base Trip Generation Rate	Vehicle Generation Rate	P/A Trip Rate Splits Productions	P/A Trip Rate Splits Attractions	Base Trip Volume	% Productions W Internal Destinations	Number of Internal Trip Productions	% Attractions W Internal Origins	Number of Internal Trip Attractions	Internal/External Trips	Net Trips Generated	Adjusted Trip Rate	Trip Rate Adjustment Factor
FISCO AREAS 1, 2, & 3	500	EMPLOYEES	3.50	0.6	10%	90%	1,750	0%	0	0%	0	1,750	1,750	3.5	0.0%
FISCO AREAS 4 & 5	200	EMPLOYEES	3.50	0.6	10%	90%	700	0%	0	0%	0	700	700	3.5	0.0%
JIT AREA	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
SPRR TERMINAL	130	EMPLOYEES	3.50	0.6	10%	90%	455	0%	0	0%	0	455	455	3.5	0.0%
UP RAIL TERMINAL	82	EMPLOYEES	3.50	0.6	10%	90%	287	0%	0	0%	0	287	287	3.5	0.0%
MARINE TERMINAL AREAS	1,835	EMPLOYEES	3.50	0.6	10%	90%	6,423	0%	0	0%	0	6,423	6,423	3.5	0.0%
ON-SITE TRUCK TRIPS	469	ACRES	1.26	0.0	50%	50%	589	0%	0	0%	589	0	589	1.3	0.0%
BAY AREA TRUCK TRIPS	469	ACRES	20.93	0.0	50%	50%	9,815	0%	0	0%	0	9,815	9,815	20.9	0.0%
LONG DISTANCE TRUCK TRIPS	469	ACRES	8.57	0.0	50%	50%	4,021	0%	0	0%	0	4,021	4,021	8.6	0.0%
PORT OF RICHMOND TRUCKS	469	ACRES	0.05	0.0	50%	50%	23	0%	0	0%	0	23	23	0.0	0.0%
TOTALS							24,063		0		589	23,474	24,063		0.0%

Notes: Average daily employee trip rates are based on data from the ITE trip generation manual (Institute of Transportation Engineers, 1991) for light industrial land uses.

Average daily truck trip rates are based on data provided by Jordan Woodman Dobson, and assume average daily trips are 80% of peak week trips.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

Production/attraction splits reflect the origin of a round trip.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

TABLE M-18. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, NO ACTION ALTERNATIVE

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
FISCO AREAS 1, 2, & 3	500 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	595		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	88		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	788		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	88		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
FISCO AREAS 4 & 5	200 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	238		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	35		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	315		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	35		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
JIT AREA	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
SPRR TERMINAL	130 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	155		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	35		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	205		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	23		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
UP RAIL TERMINAL	82 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	98		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	14		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	129		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	14		15.93	10.0%	25.0%	35.0%	15.0%	15.0%

TABLE M-18. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, NO ACTION ALTERNATIVE

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
MARINE TERMINAL AREAS	1,835 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	2,184		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	321		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	2,890		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	321		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
ON-SITE TRUCK TRIPS	469 ACRES	O-O	100.0%	1.3	0%	1.3	589		6.20	75.0%	20.0%	5.0%	0.0%	0.0%
BAY AREA TRUCK TRIPS	469 ACRES	O-O	100.0%	20.9	0%	20.9	9,815		28.85	15.0%	25.0%	30.0%	20.0%	10.0%
LONG DISTANCE TRUCK TRIPS	469 ACRES	O-O	100.0%	8.6	0%	8.6	4,021		77.50	10.0%	20.0%	25.0%	25.0%	20.0%
PORT OF RICHMOND TRUCKS	469 ACRES	O-O	100.0%	0.0	0%	0.0	23		18.00	10.0%	20.0%	25.0%	25.0%	20.0%
TOTALS							23,019	4.3%						

Notes: H-W = home-work trips

H-S = home-shopping trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

TCM = transportation control measures

Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.

Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE M-19. VEHICLE TRAVEL SUMMARY, NO ACTION ALTERNATIVE

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
FISCO AREAS 1, 2, & 3	500 EMPLOYEES	H-W	595	24.8	17.94	10,677	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	88	14.7	8.59	756	35.0
		O-W	788	21.7	14.83	11,685	41.0
		O-O	88	15.9	9.29	818	35.0
FISCO AREAS 4 & 5	200 EMPLOYEES	H-W	238	24.8	17.94	4,271	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	35	14.7	8.59	301	35.0
		O-W	315	21.7	14.83	4,671	41.0
		O-O	35	15.9	9.29	325	35.0
JIT AREA	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
SPRR TERMINAL	130 EMPLOYEES	H-W	155	24.8	17.94	2,781	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	35	14.7	8.59	301	35.0
		O-W	205	21.7	14.83	3,040	41.0
		O-O	23	15.9	9.29	214	35.0
UP RAIL TERMINAL	82 EMPLOYEES	H-W	98	24.8	17.94	1,758	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	14	14.7	8.59	120	35.0
		O-W	129	21.7	14.83	1,913	41.0
		O-O	14	15.9	9.29	130	35.0

TABLE M-19. VEHICLE TRAVEL SUMMARY, NO ACTION ALTERNATIVE

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
MARINE TERMINAL AREAS	1,835 EMPLOYEES	H-W	2,184	24.8	17.94	39,189	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	321	14.7	8.59	2,758	35.0
		O-W	2,890	21.7	14.83	42,854	41.0
		O-O	321	15.9	9.29	2,983	35.0
ON-SITE TRUCK TRIPS	469 ACRES	O-O	589	6.2	1.86	1,096	18.0
BAY AREA TRUCK TRIPS	469 ACRES	O-O	9,815	28.9	16.11	158,099	33.5
LONG DISTANCE TRUCK TRIPS	469 ACRES	O-O	4,021	77.5	48.44	194,767	37.5
PORT OF RICHMOND TRUCKS	469 ACRES	O-O	23	18.0	11.25	259	37.5
TOTALS			23,019		21.10	485,765	
TOTALS BY TRIP PURPOSE:		H-W	3,270	24.8	17.94	58,676	43.5
		H-S	0	0.0	0.00	0	0.0
		H-O	493	14.8	8.59	4,236	34.9
		O-W	4,327	21.7	14.83	64,162	41.0
		O-O	14,929	40.6	24.03	358,690	35.5
			23,019	34.3	21.10	485,765	37.0

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
VMT = vehicle miles traveled

TABLE M-20. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, NO ACTION ALTERNATIVE

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
FISCO AREAS 1, 2, & 3	500 EMPLOYEES	H-W	17.94	10,677	0.26	0.54	3.11	3.61	4.68	6.6	12.6	73.2	85.0	110.1
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	756	0.29	0.53	3.11	3.97	5.13	0.6	0.9	5.2	6.6	8.6
		O-W	14.83	11,685	0.23	0.52	3.11	3.34	4.25	6.7	13.5	80.1	86.0	109.5
		O-O	9.29	818	0.21	0.47	3.11	2.94	3.61	0.4	0.9	5.6	5.3	6.5
FISCO AREAS 4 & 5	200 EMPLOYEES	H-W	17.94	4,271	0.26	0.54	3.11	3.61	4.68	2.6	5.0	29.3	34.0	44.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	301	0.29	0.53	3.11	3.97	5.13	0.2	0.3	2.1	2.6	3.4
		O-W	14.83	4,671	0.23	0.52	3.11	3.34	4.25	2.7	5.4	32.0	34.4	43.8
		O-O	9.29	325	0.21	0.47	3.11	2.94	3.61	0.2	0.3	2.2	2.1	2.6
JIT AREA	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
SPRR TERMINAL	130 EMPLOYEES	H-W	17.94	2,781	0.26	0.54	3.11	3.61	4.68	1.7	3.3	19.1	22.1	28.7
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	301	0.29	0.53	3.11	3.97	5.13	0.2	0.3	2.1	2.6	3.4
		O-W	14.83	3,040	0.23	0.52	3.11	3.34	4.25	1.7	3.5	20.8	22.4	28.5
		O-O	9.29	214	0.21	0.47	3.11	2.94	3.61	0.1	0.2	1.5	1.4	1.7
UP RAIL TERMINAL	82 EMPLOYEES	H-W	17.94	1,758	0.26	0.54	3.11	3.61	4.68	1.1	2.1	12.1	14.0	18.1
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	120	0.29	0.53	3.11	3.97	5.13	0.1	0.1	0.8	1.1	1.4
		O-W	14.83	1,913	0.23	0.52	3.11	3.34	4.25	1.1	2.2	13.1	14.1	17.9
		O-O	9.29	130	0.21	0.47	3.11	2.94	3.61	0.1	0.1	0.9	0.8	1.0

TABLE M-20. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, NO ACTION ALTERNATIVE

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
MARINE TERMINAL AREAS	1,835 EMPLOYEES	H-W	17.94	39,189	0.26	0.54	3.11	3.61	4.68	24.0	46.3	268.6	311.8	404.1
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	2,758	0.29	0.53	3.11	3.97	5.13	2.1	3.2	18.9	24.1	31.2
		O-W	14.83	42,854	0.23	0.52	3.11	3.34	4.25	24.5	49.4	293.7	315.6	401.4
		O-O	9.29	2,983	0.21	0.47	3.11	2.94	3.61	1.6	3.1	20.4	19.3	23.8
ON-SITE TRUCK TRIPS	469 ACRES	O-O	1.86	1,096	2.97	11.14	4.53	14.32	14.42	7.2	26.9	10.9	34.6	34.8
BAY AREA TRUCK TRIPS	469 ACRES	O-O	16.11	158,099	1.82	10.46	4.53	8.15	8.21	635.5	3,644.6	1,577.5	2,840.5	2,860.2
LONG DISTANCE TRUCK TRIPS	469 ACRES	O-O	48.44	194,767	1.67	10.84	4.53	7.59	7.64	731.3	4,653.0	1,943.4	3,259.5	3,282.5
PORT OF RICHMOND TRUCKS	469 ACRES	O-O	11.25	259	1.67	10.84	4.53	7.59	7.64	1.0	6.2	2.6	4.3	4.4
TOTALS			21.10	485,765						1,453.3	8,483.6	4,436.1	7,144.3	7,471.5

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for residential and nonresidential land uses.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE M-21. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, NO ACTION ALTERNATIVE AND EMISSION RATES FOR 2010

Land Use	Amount of Development	Net Daily Vehicle Trip Generation			Daily VMT Estimate	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day)		Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day)	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day)	
		Internal Trips	External Trips	Total Trips		ROG	NOx		Summer	Winter
FISCO AREAS 1, 2, & 3	500 EMPLOYEES	0	1,559	1,559	23,935	14.2	27.8	164.1	182.9	234.6
FISCO AREAS 4 & 5	200 EMPLOYEES	0	623	623	9,568	5.7	11.1	65.6	73.1	93.8
JIT AREA	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
SPRR TERMINAL	130 EMPLOYEES	0	418	418	6,336	3.8	7.4	43.4	48.5	62.3
UP RAIL TERMINAL	82 EMPLOYEES	0	255	255	3,922	2.3	4.6	26.9	30.0	38.4
MARINE TERMINAL AREAS	1,835 EMPLOYEES	0	5,716	5,716	87,784	52.3	102.0	601.7	670.8	860.5
ON-SITE TRUCK TRIPS	469 ACRES	589	0	589	1,096	7.2	26.9	10.9	34.6	34.8
BAY AREA TRUCK TRIPS	469 ACRES	0	9,815	9,815	158,099	635.5	3,644.6	1,577.5	2,840.5	2,860.2
LONG DISTANCE TRUCK TRIPS	469 ACRES	0	4,021	4,021	194,767	731.3	4,653.0	1,943.4	3,259.5	3,282.5
PORT OF RICHMOND TRUCKS	469 ACRES	0	23	23	259	1.0	6.2	2.6	4.3	4.4
Autos		0	8,571	8,571	131,544	78.3	152.9	901.7	1,005.3	1,289.6
Trucks		589	13,859	14,448	354,221	1,375.0	8,330.7	3,534.5	6,139.0	6,181.9
Total		589	22,430	23,019	485,765	1,453.3	8,483.6	4,436.1	7,144.3	7,471.5

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter

TABLE M-22. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, NO ACTION ALTERNATIVE

Land Use	Annual Vehicle Trips	Annual VMT	Estimated Annual Vehicle Emissions (Tons Per Year) For No Action				
			ROG	NOx	CO	SOx	PM10
FISCO AREAS 1, 2, & 3	389,750	5,983,784	1.78	3.48	25.02	0.20	20.51
FISCO AREAS 4 & 5	155,750	2,391,878	0.71	1.39	10.00	0.08	8.20
JIT AREA	0	0	0.00	0.00	0.00	0.00	0.00
SPRR TERMINAL	104,500	1,583,889	0.47	0.92	6.64	0.05	5.43
UP RAIL TERMINAL	63,750	980,433	0.29	0.57	4.10	0.03	3.36
MARINE TERMINAL AREAS	1,429,000	21,946,030	6.53	12.75	91.76	0.73	75.21
ON-SITE TRUCK TRIPS	147,250	273,885	0.90	3.36	4.33	0.19	1.37
BAY AREA TRUCK TRIPS	2,453,750	39,524,801	79.44	455.57	355.88	27.88	197.19
LONG DISTANCE TRUCK TRIPS	1,005,250	48,691,797	91.42	581.63	408.40	34.35	242.93
PORT OF RICHMOND TRUCKS	5,750	64,688	0.12	0.77	0.54	0.05	0.32
Autos	2,142,750	32,886,014	9.8	19.1	137.5	1.1	112.7
Trucks	3,612,000	88,555,170	171.9	1,041.3	769.2	62.5	441.8
Total	5,754,750	121,441,184	181.7	1,060.4	906.7	63.6	554.5

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter
Annual emission estimates assume 250 working days per year.
Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.
Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE M-23. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE A

Land Use or Trip Generation Category	Trip Estimate Basis		Base Trip Generation Rate	Vehicle Generation Rate	P/A Trip Rate Splits Productions	P/A Trip Rate Splits Attractions	Base Trip Volume	% Productions W Internal Destinations	Number of Internal Trip Productions	% Attractions W Internal Origins	Number of Internal Trip Attractions	Internal/ External Trips	Net Trips Generated	Adjusted Trip Rate	Trip Rate Adjustment Factor
FISCO AREAS 1, 2, & 3	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
FISCO AREAS 4 & 5	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
JIT AREA	360	EMPLOYEES	3.50	0.6	10%	90%	1,260	0%	0	0%	0	1,260	1,260	3.5	0.0%
SPRR TERMINAL	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
UP RAIL TERMINAL	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
MARINE TERMINAL AREAS	2,853	EMPLOYEES	3.50	0.6	10%	90%	9,986	0%	0	0%	0	9,986	9,986	3.5	0.0%
ON-SITE TRUCK TRIPS	729	ACRES	8.12	0.0	50%	50%	5,916	0%	0	0%	5,916	0	5,916	8.1	0.0%
BAY AREA TRUCK TRIPS	729	ACRES	14.84	0.0	50%	50%	10,816	0%	0	0%	0	10,816	10,816	14.8	0.0%
LONG DISTANCE TRUCK TRIPS	729	ACRES	6.08	0.0	50%	50%	4,431	0%	0	0%	0	4,431	4,431	6.1	0.0%
TOTALS							32,409		0		5,916	26,493	32,409		0.0%

Notes: Average daily employee trip rates are based on data from the ITE trip generation manual (Institute of Transportation Engineers, 1991) for light industrial land uses.

Average daily truck trip rates are based on data provided by Jordan Woodman Dobson, and assume average daily trips are 80% of peak week trips.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

Production/attraction splits reflect the origin of a round trip.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

TABLE M-24. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE A

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
JIT AREA	360 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	428		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	567		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	63		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
SPRR TERMINAL	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
UP RAIL TERMINAL	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%

TABLE M-24. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE A

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
MARINE TERMINAL AREAS	2,853 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	3,395		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	499		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	4,494		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	499		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
ON-SITE TRUCK TRIPS	729 ACRES	O-O	100.0%	8.1	0%	8.1	5,916		6.20	75.0%	20.0%	5.0%	0.0%	0.0%
BAY AREA TRUCK TRIPS	729 ACRES	O-O	100.0%	14.8	0%	14.8	10,816		28.85	15.0%	25.0%	30.0%	20.0%	10.0%
LONG DISTANCE TRUCK TRIPS	729 ACRES	O-O	100.0%	6.1	0%	6.1	4,431		77.50	10.0%	20.0%	25.0%	25.0%	20.0%
TOTALS							31,108	4.0%						

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
TCM = transportation control measures
Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.
Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE M-25. VEHICLE TRAVEL SUMMARY, ALTERNATIVE A

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
JIT AREA	360 EMPLOYEES	H-W	428	24.8	17.94	7,680	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	567	21.7	14.83	8,408	41.0
		O-O	63	15.9	9.29	585	35.0
SPRR TERMINAL	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
UP RAIL TERMINAL	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0

TABLE M-25. VEHICLE TRAVEL SUMMARY, ALTERNATIVE A

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
MARINE TERMINAL AREAS	2,853 EMPLOYEES	H-W	3,395	24.8	17.94	60,919	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	499	14.7	8.59	4,288	35.0
		O-W	4,494	21.7	14.83	66,639	41.0
		O-O	499	15.9	9.29	4,637	35.0
ON-SITE TRUCK TRIPS	729 ACRES	O-O	5,916	6.2	1.86	11,004	18.0
BAY AREA TRUCK TRIPS	729 ACRES	O-O	10,816	28.9	16.11	174,223	33.5
LONG DISTANCE TRUCK TRIPS	729 ACRES	O-O	4,431	77.5	48.44	214,627	37.5
TOTALS			31,108		17.78	553,009	
TOTALS BY TRIP PURPOSE:		H-W	3,823	24.8	17.94	68,599	43.5
		H-S	0	0.0	0.00	0	0.0
		H-O	499	14.8	8.59	4,288	34.9
		O-W	5,061	21.7	14.83	75,046	41.0
		O-O	21,725	32.3	18.65	405,076	34.7
			31,108	29.3	17.78	553,009	36.3

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
VMT = vehicle miles traveled

TABLE M-26. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE A

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
JIT AREA	360 EMPLOYEES	H-W	17.94	7,680	0.26	0.54	3.11	3.61	4.68	4.7	9.1	52.6	61.1	79.2
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	8,408	0.23	0.52	3.11	3.34	4.25	4.8	9.7	57.6	61.9	78.8
		O-O	9.29	585	0.21	0.47	3.11	2.94	3.61	0.3	0.6	4.0	3.8	4.7
SPRR TERMINAL	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
UP RAIL TERMINAL	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0

TABLE M-26. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE A

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
MARINE TERMINAL AREAS	2,853 EMPLOYEES	H-W	17.94	60,919	0.26	0.54	3.11	3.61	4.68	37.4	71.9	417.6	484.7	628.2
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	4,288	0.29	0.53	3.11	3.97	5.13	3.2	5.0	29.4	37.5	48.5
		O-W	14.83	66,639	0.23	0.52	3.11	3.34	4.25	38.1	76.8	456.8	490.7	624.2
		O-O	9.29	4,637	0.21	0.47	3.11	2.94	3.61	2.5	4.9	31.8	30.1	36.9
ON-SITE TRUCK TRIPS	729 ACRES	O-O	1.86	11,004	2.97	11.14	4.53	14.32	14.42	72.5	270.4	109.8	347.4	349.8
BAY AREA TRUCK TRIPS	729 ACRES	O-O	16.11	174,223	1.82	10.46	4.53	8.15	8.21	700.3	4,016.3	1,738.4	3,130.2	3,151.9
LONG DISTANCE TRUCK TRIPS	729 ACRES	O-O	48.44	214,627	1.67	10.84	4.53	7.59	7.64	805.9	5,127.5	2,141.6	3,591.9	3,617.2
			....	....						....	....	....	....	....
TOTALS			17.78	553,009						1,669.8	9,592.1	5,039.6	8,239.3	8,619.3

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for residential and nonresidential land uses.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE M-27. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE A AND EMISSION RATES FOR 2010

Land Use	Amount of Development	Net Daily Vehicle Trip Generation: Internal Trips	Net Daily Vehicle Trip Generation: External Trips	Net Daily Vehicle Trip Generation: Total Trips	Daily VMT Estimate	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day): ROG	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day): NOx	Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day)	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day): Summer	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day): Winter
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
FISCO AREAS 4 & 5	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
JIT AREA	360 EMPLOYEES	0	1,058	1,058	16,673	9.8	19.4	114.3	126.8	162.6
SPRR TERMINAL	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
UP RAIL TERMINAL	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
MARINE TERMINAL AREAS	2,853 EMPLOYEES	0	8,887	8,887	136,482	81.2	158.6	935.5	1,043.0	1,337.8
ON-SITE TRUCK TRIPS	729 ACRES	5,916	0	5,916	11,004	72.5	270.4	109.8	347.4	349.8
BAY AREA TRUCK TRIPS	729 ACRES	0	10,816	10,816	174,223	700.3	4,016.3	1,738.4	3,130.2	3,151.9
LONG DISTANCE TRUCK TRIPS	729 ACRES	0	4,431	4,431	214,627	805.9	5,127.5	2,141.6	3,591.9	3,617.2
Autos		0	9,945	9,945	153,155	91.1	178.0	1,049.8	1,169.8	1,500.4
Trucks		5,916	15,247	21,163	399,854	1,578.7	9,414.1	3,989.8	7,069.5	7,118.9
Total		5,916	25,192	31,108	553,009	1,669.8	9,592.1	5,039.6	8,239.3	8,619.3

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter

TABLE M-28. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE A

Land Use	Annual Vehicle Trips	Annual VMT	Estimated Annual Vehicle Emissions (Tons Per Year) For Alternative A				
			ROG	NOx	CO	SOx	PM10
FISCO AREAS 1, 2, & 3	0	0	0.00	0.00	0.00	0.00	0.00
FISCO AREAS 4 & 5	0	0	0.00	0.00	0.00	0.00	0.00
JIT AREA	264,500	4,168,254	1.23	2.42	17.34	0.14	14.29
SPRR TERMINAL	0	0	0.00	0.00	0.00	0.00	0.00
UP RAIL TERMINAL	0	0	0.00	0.00	0.00	0.00	0.00
MARINE TERMINAL AREAS	2,221,750	34,120,544	10.15	19.82	142.66	1.13	116.94
ON-SITE TRUCK TRIPS	1,479,000	2,750,940	9.06	33.80	43.52	1.94	13.72
BAY AREA TRUCK TRIPS	2,704,000	43,555,807	87.54	502.03	392.18	30.73	217.30
LONG DISTANCE TRUCK TRIPS	1,107,750	53,656,641	100.74	640.94	450.04	37.85	267.70
Autos	2,486,250	38,288,798	11.4	22.2	160.0	1.3	131.2
Trucks	5,290,750	99,963,387	197.3	1,176.8	885.7	70.5	498.7
Total	7,777,000	138,252,186	208.7	1,199.0	1,045.7	71.8	629.9

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter
Annual emission estimates assume 250 working days per year.
Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.
Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE M-29. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE B

Land Use or Trip Generation Category	Trip Estimate Basis		Base Trip Generation Rate	Vehicle Generation Rate	P/A Trip Rate Splits Productions	P/A Trip Rate Splits Attractions	Base Trip Volume	% Productions W Internal Destinations	Number of Internal Trip Productions	% Attractions W Internal Origins	Number of Internal Trip Attractions	Internal/ External Trips	Net Trips Generated	Adjusted Trip Rate	Trip Rate Adjustment Factor
FISCO AREAS 1, 2, & 3	400	EMPLOYEES	3.50	0.6	10%	90%	1,400	0%	0	0%	0	1,400	1,400	3.5	0.0%
FISCO AREAS 4 & 5	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
JIT AREA	167	EMPLOYEES	3.50	0.6	10%	90%	585	0%	0	0%	0	585	585	3.5	0.0%
SPRR TERMINAL	150	EMPLOYEES	3.50	0.6	10%	90%	525	0%	0	0%	0	525	525	3.5	0.0%
UP RAIL TERMINAL	67	EMPLOYEES	3.50	0.6	10%	90%	235	0%	0	0%	0	235	235	3.5	0.0%
MARINE TERMINAL AREAS	2,312	EMPLOYEES	3.50	0.6	10%	90%	8,092	0%	0	0%	0	8,092	8,092	3.5	0.0%
ON-SITE TRUCK TRIPS	591	ACRES	3.91	0.0	50%	50%	2,313	0%	0	0%	2,313	0	2,313	3.9	0.0%
BAY AREA TRUCK TRIPS	591	ACRES	18.30	0.0	50%	50%	10,817	0%	0	0%	0	10,817	10,817	18.3	0.0%
LONG DISTANCE TRUCK TRIPS	591	ACRES	7.50	0.0	50%	50%	4,432	0%	0	0%	0	4,432	4,432	7.5	0.0%
TOTALS							28,399		0		2,313	26,086	28,399		0.0%

Notes: Average daily employee trip rates are based on data from the ITE trip generation manual (Institute of Transportation Engineers, 1991) for light industrial land uses.

Average daily truck trip rates are based on data provided by Jordan Woodman Dobson, and assume average daily trips are 80% of peak week trips.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

Production/attraction splits reflect the origin of a round trip.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

TABLE M-30. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE B

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph)				
										15	25	35	45	55
FISCO AREAS 1, 2, & 3	400 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	476		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	70		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	630		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	70		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
JIT AREA	167 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	199		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	263		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	29		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
SPRR TERMINAL	150 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	179		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	236		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	26		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
UP RAIL TERMINAL	67 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	80		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	12		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	106		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	12		15.93	10.0%	25.0%	35.0%	15.0%	15.0%

TABLE M-30. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE B

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
MARINE TERMINAL AREAS	2,312 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	2,751		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	405		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	3,641		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	405		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
ON-SITE TRUCK TRIPS	591 ACRES	O-O	100.0%	3.9	0%	3.9	2,313		6.20	75.0%	20.0%	5.0%	0.0%	0.0%
BAY AREA TRUCK TRIPS	591 ACRES	O-O	100.0%	18.3	0%	18.3	10,817		28.85	15.0%	25.0%	30.0%	20.0%	10.0%
LONG DISTANCE TRUCK TRIPS	591 ACRES	O-O	100.0%	7.5	0%	7.5	4,432		77.50	10.0%	20.0%	25.0%	25.0%	20.0%
TOTALS							27,152	4.4%						

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
TCM = transportation control measures
Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.
Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE M-31. VEHICLE TRAVEL SUMMARY, ALTERNATIVE B

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
FISCO AREAS 1, 2, & 3	400 EMPLOYEES	H-W	476	24.8	17.94	8,541	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	70	14.7	8.59	601	35.0
		O-W	630	21.7	14.83	9,342	41.0
		O-O	70	15.9	9.29	650	35.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
JIT AREA	167 EMPLOYEES	H-W	199	24.8	17.94	3,571	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	263	21.7	14.83	3,900	41.0
		O-O	29	15.9	9.29	269	35.0
SPRR TERMINAL	150 EMPLOYEES	H-W	179	24.8	17.94	3,212	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	236	21.7	14.83	3,499	41.0
		O-O	26	15.9	9.29	242	35.0
UP RAIL TERMINAL	67 EMPLOYEES	H-W	80	24.8	17.94	1,436	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	12	14.7	8.59	103	35.0
		O-W	106	21.7	14.83	1,572	41.0
		O-O	12	15.9	9.29	112	35.0

TABLE M-31. VEHICLE TRAVEL SUMMARY, ALTERNATIVE B

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
MARINE TERMINAL AREAS	2,312 EMPLOYEES	H-W	2,751	24.8	17.94	49,363	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	405	14.7	8.59	3,480	35.0
		O-W	3,641	21.7	14.83	53,990	41.0
		O-O	405	15.9	9.29	3,763	35.0
ON-SITE TRUCK TRIPS	591 ACRES	O-O	2,313	6.2	1.86	4,302	18.0
BAY AREA TRUCK TRIPS	591 ACRES	O-O	10,817	28.9	16.11	174,239	33.5
LONG DISTANCE TRUCK TRIPS	591 ACRES	O-O	4,432	77.5	48.44	214,675	37.5
TOTALS			27,152		19.92	540,863	
TOTALS BY TRIP PURPOSE:		H-W	3,685	24.8	17.94	66,123	43.5
		H-S	0	0.0	0.00	0	0.0
		H-O	487	14.8	8.59	4,185	34.9
		O-W	4,876	21.7	14.83	72,303	41.0
		O-O	18,104	37.5	22.00	398,253	35.2
			27,152	32.5	19.92	540,863	36.8

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
VMT = vehicle miles traveled

TABLE M-32. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE B

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
FISCO AREAS 1, 2, & 3	400 EMPLOYEES	H-W	17.94	8,541	0.26	0.54	3.11	3.61	4.68	5.2	10.1	58.5	68.0	88.1
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	601	0.29	0.53	3.11	3.97	5.13	0.4	0.7	4.1	5.3	6.8
		O-W	14.83	9,342	0.23	0.52	3.11	3.34	4.25	5.3	10.8	64.0	68.8	87.5
		O-O	9.29	650	0.21	0.47	3.11	2.94	3.61	0.4	0.7	4.5	4.2	5.2
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
JIT AREA	167 EMPLOYEES	H-W	17.94	3,571	0.26	0.54	3.11	3.61	4.68	2.2	4.2	24.5	28.4	36.8
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	3,900	0.23	0.52	3.11	3.34	4.25	2.2	4.5	26.7	28.7	36.5
		O-O	9.29	269	0.21	0.47	3.11	2.94	3.61	0.1	0.3	1.8	1.7	2.1
SPRR TERMINAL	150 EMPLOYEES	H-W	17.94	3,212	0.26	0.54	3.11	3.61	4.68	2.0	3.8	22.0	25.6	33.1
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	3,499	0.23	0.52	3.11	3.34	4.25	2.0	4.0	24.0	25.8	32.8
		O-O	9.29	242	0.21	0.47	3.11	2.94	3.61	0.1	0.3	1.7	1.6	1.9
UP RAIL TERMINAL	67 EMPLOYEES	H-W	17.94	1,436	0.26	0.54	3.11	3.61	4.68	0.9	1.7	9.8	11.4	14.8
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	103	0.29	0.53	3.11	3.97	5.13	0.1	0.1	0.7	0.9	1.2
		O-W	14.83	1,572	0.23	0.52	3.11	3.34	4.25	0.9	1.8	10.8	11.6	14.7
		O-O	9.29	112	0.21	0.47	3.11	2.94	3.61	0.1	0.1	0.8	0.7	0.9

TABLE M-32. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE B

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
MARINE TERMINAL AREAS	2,312 EMPLOYEES	H-W	17.94	49,363	0.26	0.54	3.11	3.61	4.68	30.3	58.3	338.4	392.8	509.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	3,480	0.29	0.53	3.11	3.97	5.13	2.6	4.0	23.9	30.4	39.4
		O-W	14.83	53,990	0.23	0.52	3.11	3.34	4.25	30.9	62.2	370.1	397.6	505.7
		O-O	9.29	3,763	0.21	0.47	3.11	2.94	3.61	2.1	3.9	25.8	24.4	30.0
ON-SITE TRUCK TRIPS	591 ACRES	O-O	1.86	4,302	2.97	11.14	4.53	14.32	14.42	28.3	105.7	42.9	135.8	136.7
BAY AREA TRUCK TRIPS	591 ACRES	O-O	16.11	174,239	1.82	10.46	4.53	8.15	8.21	700.4	4,016.6	1,738.6	3,130.5	3,152.2
LONG DISTANCE TRUCK TRIPS	591 ACRES	O-O	48.44	214,675	1.67	10.84	4.53	7.59	7.64	806.1	5,128.7	2,142.1	3,592.7	3,618.1
			....	....						....	....	....	....	....
TOTALS			19.92	540,863						1,622.6	9,422.6	4,935.6	7,986.8	8,353.5

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for residential and nonresidential land uses.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE M-33. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE B AND EMISSION RATES FOR 2010

Land Use	Amount of Development	Net Daily Vehicle Trip Generation: Internal Trips	External Trips	Total Trips	Daily VMT Estimate	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day): ROG	NOx	Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day)	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day): Summer	Winter
FISCO AREAS 1, 2, & 3	400 EMPLOYEES	0	1,246	1,246	19,135	11.4	22.2	131.2	146.2	187.6
FISCO AREAS 4 & 5	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
JIT AREA	167 EMPLOYEES	0	491	491	7,740	4.6	9.0	53.1	58.9	75.5
SPRR TERMINAL	150 EMPLOYEES	0	441	441	6,953	4.1	8.1	47.7	52.9	67.8
UP RAIL TERMINAL	67 EMPLOYEES	0	210	210	3,222	1.9	3.7	22.1	24.6	31.6
MARINE TERMINAL AREAS	2,312 EMPLOYEES	0	7,202	7,202	110,597	65.8	128.5	758.1	845.2	1,084.1
ON-SITE TRUCK TRIPS	591 ACRES	2,313	0	2,313	4,302	28.3	105.7	42.9	135.8	136.7
BAY AREA TRUCK TRIPS	591 ACRES	0	10,817	10,817	174,239	700.4	4,016.6	1,738.6	3,130.5	3,152.2
LONG DISTANCE TRUCK TRIPS	591 ACRES	0	4,432	4,432	214,675	806.1	5,128.7	2,142.1	3,592.7	3,618.1
Autos		0	9,590	9,590	147,647	87.8	171.6	1,012.0	1,127.8	1,446.6
Trucks		2,313	15,249	17,562	393,217	1,534.8	9,251.0	3,923.6	6,859.0	6,907.0
Total		2,313	24,839	27,152	540,863	1,622.6	9,422.6	4,935.6	7,986.8	8,353.5

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter

TABLE M-34. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE B

Land Use	Annual Vehicle Trips	Annual VMT	Estimated Annual Vehicle Emissions (Tons Per Year) For Alternative B				
			ROG	NOx	CO	SOx	PM10
FISCO AREAS 1, 2, & 3	311,500	4,783,756	1.42	2.78	20.00	0.16	16.40
FISCO AREAS 4 & 5	0	0	0.00	0.00	0.00	0.00	0.00
JIT AREA	122,750	1,935,035	0.57	1.12	8.05	0.06	6.63
SPRR TERMINAL	110,250	1,738,256	0.51	1.01	7.23	0.06	5.96
UP RAIL TERMINAL	52,500	805,481	0.24	0.47	3.37	0.03	2.76
MARINE TERMINAL AREAS	1,800,500	27,649,161	8.23	16.06	115.60	0.91	94.76
ON-SITE TRUCK TRIPS	578,250	1,075,545	3.54	13.21	17.02	0.76	5.37
BAY AREA TRUCK TRIPS	2,704,250	43,559,834	87.55	502.08	392.21	30.73	217.32
LONG DISTANCE TRUCK TRIPS	1,108,000	53,668,750	100.76	641.08	450.14	37.86	267.76
Autos	2,397,500	36,911,689	11.0	21.4	154.3	1.2	126.5
Trucks	4,390,500	98,304,129	191.8	1,156.4	859.4	69.4	490.4
Total	6,788,000	135,215,817	202.8	1,177.8	1,013.6	70.6	617.0

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter
Annual emission estimates assume 250 working days per year.
Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.
Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE M-35. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE C

Land Use or Trip Generation Category	Trip Estimate Basis		Base Trip Generation Rate	Vehicle Generation Rate	P/A Trip Rate Splits Productions	P/A Trip Rate Splits Attractions	Base Trip Volume	% Productions W Internal Destinations	Number of Internal Trip Productions	% Attractions W Internal Origins	Number of Internal Trip Attractions	Internal/ External Trips	Net Trips Generated	Adjusted Trip Rate	Trip Rate Adjustment Factor
FISCO AREAS 1, 2, & 3	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
FISCO AREAS 4 & 5	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
JIT AREA	208	EMPLOYEES	3.50	0.6	10%	90%	728	0%	0	0%	0	728	728	3.5	0.0%
SPRR TERMINAL	210	EMPLOYEES	3.50	0.6	10%	90%	735	0%	0	0%	0	735	735	3.5	0.0%
UP RAIL TERMINAL	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
MARINE TERMINAL AREAS	2,970	EMPLOYEES	3.50	0.6	10%	90%	10,395	0%	0	0%	0	10,395	10,395	3.5	0.0%
ON-SITE TRUCK TRIPS	759	ACRES	8.82	0.0	50%	50%	6,694	0%	0	0%	6,694	0	6,694	8.8	0.0%
BAY AREA TRUCK TRIPS	759	ACRES	14.25	0.0	50%	50%	10,819	0%	0	0%	0	10,819	10,819	14.3	0.0%
LONG DISTANCE TRUCK TRIPS	759	ACRES	5.84	0.0	50%	50%	4,433	0%	0	0%	0	4,433	4,433	5.8	0.0%
TOTALS							33,804		0		6,694	27,110	33,804		0.0%

Notes: Average daily employee trip rates are based on data from the ITE trip generation manual (Institute of Transportation Engineers, 1991) for light industrial land uses.

Average daily truck trip rates are based on data provided by Jordan Woodman Dobson, and assume average daily trips are 80% of peak week trips.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

Production/attraction splits reflect the origin of a round trip.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

TABLE M-36. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE C

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
JIT AREA	208 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	248		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	328		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	36		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
SPRR TERMINAL	210 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	250		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	331		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	37		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
UP RAIL TERMINAL	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%

TABLE M-36. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE C

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph)				
										15	25	35	45	55
MARINE TERMINAL AREAS	2,970 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	3,534		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	520		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	4,678		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	520		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
ON-SITE TRUCK TRIPS	759 ACRES	O-O	100.0%	8.8	0%	8.8	6,694		6.20	75.0%	20.0%	5.0%	0.0%	0.0%
BAY AREA TRUCK TRIPS	759 ACRES	O-O	100.0%	14.3	0%	14.3	10,819		28.85	15.0%	25.0%	30.0%	20.0%	10.0%
LONG DISTANCE TRUCK TRIPS	759 ACRES	O-O	100.0%	5.8	0%	5.8	4,433		77.50	10.0%	20.0%	25.0%	25.0%	20.0%
TOTALS							32,428	4.1%						

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
TCM = transportation control measures
Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.
Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE M-37. VEHICLE TRAVEL SUMMARY, ALTERNATIVE C

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
JIT AREA	208 EMPLOYEES	H-W	248	24.8	17.94	4,450	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	328	21.7	14.83	4,864	41.0
		O-O	36	15.9	9.29	335	35.0
SPRR TERMINAL	210 EMPLOYEES	H-W	250	24.8	17.94	4,486	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	331	21.7	14.83	4,908	41.0
		O-O	37	15.9	9.29	344	35.0
UP RAIL TERMINAL	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0

TABLE M-37. VEHICLE TRAVEL SUMMARY, ALTERNATIVE C

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
MARINE TERMINAL AREAS	2,970 EMPLOYEES	H-W	3,534	24.8	17.94	63,413	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	520	14.7	8.59	4,468	35.0
		O-W	4,678	21.7	14.83	69,367	41.0
		O-O	520	15.9	9.29	4,832	35.0
ON-SITE TRUCK TRIPS	759 ACRES	O-O	6,694	6.2	1.86	12,451	18.0
BAY AREA TRUCK TRIPS	759 ACRES	O-O	10,819	28.9	16.11	174,272	33.5
LONG DISTANCE TRUCK TRIPS	759 ACRES	O-O	4,433	77.5	48.44	214,723	37.5
TOTAL			32,428		17.36	562,912	
TOTALS BY TRIP PURPOSE:		H-W	4,032	24.8	17.94	72,349	43.5
		H-S	0	0.0	0.00	0	0.0
		H-O	520	14.8	8.59	4,468	34.9
		O-W	5,337	21.7	14.83	79,139	41.0
		O-O	22,539	31.4	18.06	406,956	34.6
			32,428	28.7	17.36	562,912	36.3

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
VMT = vehicle miles traveled

TABLE M-38. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE C

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
JIT AREA	208 EMPLOYEES	H-W	17.94	4,450	0.26	0.54	3.11	3.61	4.68	2.7	5.3	30.5	35.4	45.9
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	4,864	0.23	0.52	3.11	3.34	4.25	2.8	5.6	33.3	35.8	45.6
		O-O	9.29	335	0.21	0.47	3.11	2.94	3.61	0.2	0.4	2.3	2.2	2.7
SPRR TERMINAL	210 EMPLOYEES	H-W	17.94	4,486	0.26	0.54	3.11	3.61	4.68	2.8	5.3	30.7	35.7	46.3
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	4,908	0.23	0.52	3.11	3.34	4.25	2.8	5.7	33.6	36.1	46.0
		O-O	9.29	344	0.21	0.47	3.11	2.94	3.61	0.2	0.4	2.4	2.2	2.7
UP RAIL TERMINAL	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0

TABLE M-38. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE C

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
MARINE TERMINAL AREAS	2,970 EMPLOYEES	H-W	17.94	63,413	0.26	0.54	3.11	3.61	4.68	38.9	74.9	434.7	504.6	653.9
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	4,468	0.29	0.53	3.11	3.97	5.13	3.3	5.2	30.6	39.1	50.6
		O-W	14.83	69,367	0.23	0.52	3.11	3.34	4.25	39.7	80.0	475.5	510.8	649.8
		O-O	9.29	4,832	0.21	0.47	3.11	2.94	3.61	2.6	5.1	33.1	31.3	38.5
ON-SITE TRUCK TRIPS	759 ACRES	O-O	1.86	12,451	2.97	11.14	4.53	14.32	14.42	82.0	305.9	124.2	393.1	395.7
BAY AREA TRUCK TRIPS	759 ACRES	O-O	16.11	174,272	1.82	10.46	4.53	8.15	8.21	700.5	4,017.4	1,738.9	3,131.1	3,152.7
LONG DISTANCE TRUCK TRIPS	759 ACRES	O-O	48.44	214,723	1.67	10.84	4.53	7.59	7.64	806.3	5,129.8	2,142.5	3,593.5	3,618.9
			....	....						....	....	....	....	....
TOTALS			17.36	562,912						1,684.8	9,640.7	5,112.4	8,350.9	8,749.1

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for residential and nonresidential land uses.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE M-39. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE C AND EMISSION RATES FOR 2010

Land Use	Amount of Development	Net Daily Vehicle Trip Generation: Internal Trips	Net Daily Vehicle Trip Generation: External Trips	Net Daily Vehicle Trip Generation: Total Trips	Daily VMT Estimate	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day): ROG	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day): NOx	Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day)	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day): Summer	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day): Winter
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
FISCO AREAS 4 & 5	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
JIT AREA	208 EMPLOYEES	0	612	612	9,648	5.7	11.2	66.1	73.4	94.1
SPRR TERMINAL	210 EMPLOYEES	0	618	618	9,738	5.7	11.3	66.7	74.1	95.0
UP RAIL TERMINAL	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
MARINE TERMINAL AREAS	2,970 EMPLOYEES	0	9,252	9,252	142,080	84.6	165.1	973.9	1,085.7	1,392.7
ON-SITE TRUCK TRIPS	759 ACRES	6,694	0	6,694	12,451	82.0	305.9	124.2	393.1	395.7
BAY AREA TRUCK TRIPS	759 ACRES	0	10,819	10,819	174,272	700.5	4,017.4	1,738.9	3,131.1	3,152.7
LONG DISTANCE TRUCK TRIPS	759 ACRES	0	4,433	4,433	214,723	806.3	5,129.8	2,142.5	3,593.5	3,618.9
Autos		0	10,482	10,482	161,467	96.0	187.6	1,106.8	1,233.2	1,581.8
Trucks		6,694	15,252	21,946	401,446	1,588.8	9,453.1	4,005.7	7,117.7	7,167.4
Total		6,694	25,734	32,428	562,912	1,684.8	9,640.7	5,112.4	8,350.9	8,749.1

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter

TABLE M-40. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE C

Land Use	Annual Vehicle Trips	Annual VMT	Estimated Annual Vehicle Emissions (Tons Per Year) For Alternative C				
			ROG	NOx	CO	SOx	PM10
FISCO AREAS 1, 2, & 3	0	0	0.00	0.00	0.00	0.00	0.00
FISCO AREAS 4 & 5	0	0	0.00	0.00	0.00	0.00	0.00
JIT AREA	153,000	2,412,068	0.71	1.40	10.04	0.08	8.27
SPRR TERMINAL	154,500	2,434,485	0.72	1.41	10.13	0.08	8.34
UP RAIL TERMINAL	0	0	0.00	0.00	0.00	0.00	0.00
MARINE TERMINAL AREAS	2,313,000	35,520,089	10.57	20.64	148.51	1.17	121.74
ON-SITE TRUCK TRIPS	1,673,500	3,112,710	10.25	38.24	49.25	2.20	15.53
BAY AREA TRUCK TRIPS	2,704,750	43,567,888	87.56	502.17	392.29	30.74	217.36
LONG DISTANCE TRUCK TRIPS	1,108,250	53,680,859	100.78	641.23	450.25	37.87	267.82
Autos	2,620,500	40,366,642	12.0	23.5	168.7	1.3	138.3
Trucks	5,486,500	100,361,457	198.6	1,181.6	891.8	70.8	500.7
Total	8,107,000	140,728,099	210.6	1,205.1	1,060.5	72.1	639.1

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter
Annual emission estimates assume 250 working days per year.
Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.
Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE M-41. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE D

Land Use or Trip Generation Category	Trip Estimate Basis		Base Trip Generation Rate	Vehicle Generation Rate	P/A Trip Rate Splits Productions	P/A Trip Rate Splits Attractions	Base Trip Volume	% Productions W Internal Destinations	Number of Internal Trip Productions	% Attractions W Internal Origins	Number of Internal Trip Attractions	Internal/ External Trips	Net Trips Generated	Adjusted Trip Rate	Trip Rate Adjustment Factor
FISCO AREAS 1, 2, & 3	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
FISCO AREAS 4 & 5	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
JIT AREA	343	EMPLOYEES	3.50	0.6	10%	90%	1,201	0%	0	0%	0	1,201	1,201	3.5	0.0%
SPRR TERMINAL	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
UP RAIL TERMINAL	0	EMPLOYEES	0.00	0.0	10%	90%	0	0%	0	0%	0	0	0	0.0	0.0%
MARINE TERMINAL AREAS	2,923	EMPLOYEES	3.50	0.6	10%	90%	10,231	0%	0	0%	0	10,231	10,231	3.5	0.0%
ON-SITE TRUCK TRIPS	747	ACRES	8.56	0.0	50%	50%	6,394	0%	0	0%	6,394	0	6,394	8.6	0.0%
BAY AREA TRUCK TRIPS	747	ACRES	14.47	0.0	50%	50%	10,812	0%	0	0%	0	10,812	10,812	14.5	0.0%
LONG DISTANCE TRUCK TRIPS	747	ACRES	5.93	0.0	50%	50%	4,430	0%	0	0%	0	4,430	4,430	5.9	0.0%
TOTALS							33,068		0		6,394	26,674	33,068		0.0%

Notes: Average daily employee trip rates are based on data from the ITE trip generation manual (Institute of Transportation Engineers, 1991) for light industrial land uses.

Average daily truck trip rates are based on data provided by Jordan Woodman Dobson, and assume average daily trips are 80% of peak week trips.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

Production/attraction splits reflect the origin of a round trip.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

TABLE M-42. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE D

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
JIT AREA	343 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	408		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	540		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	60		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
SPRR TERMINAL	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
UP RAIL TERMINAL	0 EMPLOYEES	H-W	40.0%	0.0	15%	0.0	0		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.0	0%	0.0	0		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	0.0	10%	0.0	0		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.0	0%	0.0	0		15.93	10.0%	25.0%	35.0%	15.0%	15.0%

TABLE M-42. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE D

Land Use	Trip Estimate Basis	Trip Purpose	Percent of Net Trips	Net Trip Rates	TCM Program Effect	Adjusted Net Trip Rate	Adjusted Net Trips	Overall TCM Effectiveness	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (mph) 15	25	35	45	55
MARINE TERMINAL AREAS	2,923 EMPLOYEES	H-W	40.0%	1.4	15%	1.2	3,479		24.75	5.0%	10.0%	20.0%	25.0%	40.0%
		H-S	0.0%	0.0	0%	0.0	0		12.50	10.0%	30.0%	25.0%	15.0%	20.0%
		H-O	5.0%	0.2	0%	0.2	512		14.73	10.0%	25.0%	35.0%	15.0%	15.0%
		O-W	50.0%	1.8	10%	1.6	4,604		21.70	5.0%	20.0%	20.0%	20.0%	35.0%
		O-O	5.0%	0.2	0%	0.2	512		15.93	10.0%	25.0%	35.0%	15.0%	15.0%
ON-SITE TRUCK TRIPS	747 ACRES	O-O	100.0%	8.6	0%	8.6	6,394		6.20	75.0%	20.0%	5.0%	0.0%	0.0%
BAY AREA TRUCK TRIPS	747 ACRES	O-O	100.0%	14.5	0%	14.5	10,812		28.85	15.0%	25.0%	30.0%	20.0%	10.0%
LONG DISTANCE TRUCK TRIPS	747 ACRES	O-O	100.0%	5.9	0%	5.9	4,430		77.50	10.0%	20.0%	25.0%	25.0%	20.0%
TOTALS							31,751	4.0%						

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
TCM = transportation control measures
Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.
Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE M-43. VEHICLE TRAVEL SUMMARY, ALTERNATIVE D

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
JIT AREA	343 EMPLOYEES	H-W	408	24.8	17.94	7,321	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	540	21.7	14.83	8,007	41.0
		O-O	60	15.9	9.29	558	35.0
SPRR TERMINAL	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0
UP RAIL TERMINAL	0 EMPLOYEES	H-W	0	24.8	17.94	0	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	0	14.7	8.59	0	35.0
		O-W	0	21.7	14.83	0	41.0
		O-O	0	15.9	9.29	0	35.0

TABLE M-43. VEHICLE TRAVEL SUMMARY, ALTERNATIVE D

LAND USE	TRIP ESTIMATE BASIS	TRIP PURPOSE	AVERAGE DAILY TRIPS	MEAN TRIP DURATION (MINUTES)	AVERAGE DISTANCE (MILES)	DAILY VMT BY TRIP PURPOSE	AVERAGE TRAVEL SPEED (MPH)
MARINE TERMINAL AREAS	2,923 EMPLOYEES	H-W	3,479	24.8	17.94	62,426	43.5
		H-S	0	12.5	7.40	0	35.5
		H-O	512	14.7	8.59	4,399	35.0
		O-W	4,604	21.7	14.83	68,270	41.0
		O-O	512	15.9	9.29	4,758	35.0
ON-SITE TRUCK TRIPS	747 ACRES	O-O	6,394	6.2	1.86	11,893	18.0
BAY AREA TRUCK TRIPS	747 ACRES	O-O	10,812	28.9	16.11	174,159	33.5
LONG DISTANCE TRUCK TRIPS	747 ACRES	O-O	4,430	77.5	48.44	214,578	37.5
TOTALS			31,751		17.52	556,369	
TOTALS BY TRIP PURPOSE:		H-W	3,887	24.8	17.94	69,747	43.5
		H-S	0	0.0	0.00	0	0.0
		H-O	512	14.8	8.59	4,399	34.9
		O-W	5,144	21.7	14.83	76,277	41.0
		O-O	22,208	31.7	18.28	405,945	34.6
			31,751	29.0	17.52	556,369	36.3

Notes: H-W = home-work trips
H-S = home-shopping trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
VMT = vehicle miles traveled

TABLE M-44. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE D

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
FISCO AREAS 4 & 5	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
JIT AREA	343 EMPLOYEES	H-W	17.94	7,321	0.26	0.54	3.11	3.61	4.68	4.5	8.6	50.2	58.3	75.5
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	8,007	0.23	0.52	3.11	3.34	4.25	4.6	9.2	54.9	59.0	75.0
		O-O	9.29	558	0.21	0.47	3.11	2.94	3.61	0.3	0.6	3.8	3.6	4.4
SPRR TERMINAL	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0
UP RAIL TERMINAL	0 EMPLOYEES	H-W	17.94	0	0.26	0.54	3.11	3.61	4.68	0.0	0.0	0.0	0.0	0.0
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	0	0.29	0.53	3.11	3.97	5.13	0.0	0.0	0.0	0.0	0.0
		O-W	14.83	0	0.23	0.52	3.11	3.34	4.25	0.0	0.0	0.0	0.0	0.0
		O-O	9.29	0	0.21	0.47	3.11	2.94	3.61	0.0	0.0	0.0	0.0	0.0

TABLE M-44. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE D

Land Use	Trip Estimate Basis	Trip Purpose	Average Distance (miles)	VMT by Category	Exhaust ROG Rate (gm/mile)	Exhaust NOx Rate (gm/mile)	Total PM10 Emission Rate (gm/mile)	Summer CO Rate (gm/mile)	Winter CO Rate (gm/mile)	ROG Emissions (lbs/day)	NOx Emissions (lbs/day)	PM10 Emissions (lbs/day)	Summer CO Emissions (lbs/day)	Winter CO Emissions (lbs/day)
MARINE TERMINAL AREAS	2,923 EMPLOYEES	H-W	17.94	62,426	0.26	0.54	3.11	3.61	4.68	38.3	73.7	427.9	496.7	643.7
		H-S	7.40	0	0.28	0.55	3.11	3.86	4.95	0.0	0.0	0.0	0.0	0.0
		H-O	8.59	4,399	0.29	0.53	3.11	3.97	5.13	3.3	5.1	30.2	38.5	49.8
		O-W	14.83	68,270	0.23	0.52	3.11	3.34	4.25	39.1	78.7	468.0	502.7	639.5
		O-O	9.29	4,758	0.21	0.47	3.11	2.94	3.61	2.6	5.0	32.6	30.8	37.9
ON-SITE TRUCK TRIPS	747 ACRES	O-O	1.86	11,893	2.97	11.14	4.53	14.32	14.42	78.3	292.2	118.7	375.5	378.0
BAY AREA TRUCK TRIPS	747 ACRES	O-O	16.11	174,159	1.82	10.46	4.53	8.15	8.21	700.0	4,014.8	1,737.8	3,129.0	3,150.7
LONG DISTANCE TRUCK TRIPS	747 ACRES	O-O	48.44	214,578	1.67	10.84	4.53	7.59	7.64	805.7	5,126.3	2,141.1	3,591.1	3,616.4
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TOTALS			17.52	556,369						1,676.7	9,614.3	5,065.0	8,285.1	8,671.0

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for residential and nonresidential land uses.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE M-45. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE D AND EMISSION RATES FOR 2010

Land Use	Amount of Development	Net Daily Vehicle Trip Generation: Internal Trips	External Trips	Total Trips	Daily VMT Estimate	Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day): ROG	NOx	Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day)	Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day): Summer	Winter
FISCO AREAS 1, 2, & 3	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
FISCO AREAS 4 & 5	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
JIT AREA	343 EMPLOYEES	0	1,008	1,008	15,886	9.4	18.5	108.9	120.8	154.9
SPRR TERMINAL	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
UP RAIL TERMINAL	0 EMPLOYEES	0	0	0	0	0.0	0.0	0.0	0.0	0.0
MARINE TERMINAL AREAS	2,923 EMPLOYEES	0	9,107	9,107	139,853	83.2	162.5	958.6	1,068.7	1,370.9
ON-SITE TRUCK TRIPS	747 ACRES	6,394	0	6,394	11,893	78.3	292.2	118.7	375.5	378.0
BAY AREA TRUCK TRIPS	747 ACRES	0	10,812	10,812	174,159	700.0	4,014.8	1,737.8	3,129.0	3,150.7
LONG DISTANCE TRUCK TRIPS	747 ACRES	0	4,430	4,430	214,578	805.7	5,126.3	2,141.1	3,591.1	3,616.4
Autos		0	10,115	10,115	155,739	92.6	181.0	1,067.5	1,189.6	1,525.8
Trucks		6,394	15,242	21,636	400,630	1,584.1	9,433.3	3,997.5	7,095.6	7,145.1
Total		6,394	25,357	31,751	556,369	1,676.7	9,614.3	5,065.0	8,285.1	8,671.0

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter

TABLE M-46. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE D

Land Use	Annual Vehicle Trips	Annual VMT	Estimated Annual Vehicle Emissions (Tons Per Year) For Alternative D				
			ROG	NOx	CO	SOx	PM10
FISCO AREAS 1, 2, & 3	0	0	0.00	0.00	0.00	0.00	0.00
FISCO AREAS 4 & 5	0	0	0.00	0.00	0.00	0.00	0.00
JIT AREA	252,000	3,971,475	1.17	2.31	16.52	0.13	13.61
SPRR TERMINAL	0	0	0.00	0.00	0.00	0.00	0.00
UP RAIL TERMINAL	0	0	0.00	0.00	0.00	0.00	0.00
MARINE TERMINAL AREAS	2,276,750	34,963,268	10.41	20.31	146.18	1.16	119.83
ON-SITE TRUCK TRIPS	1,598,500	2,973,210	9.79	36.53	47.04	2.10	14.83
BAY AREA TRUCK TRIPS	2,703,000	43,539,699	87.50	501.85	392.03	30.72	217.22
LONG DISTANCE TRUCK TRIPS	1,107,500	53,644,531	100.72	640.79	449.94	37.85	267.64
Autos	2,528,750	38,934,743	11.6	22.6	162.7	1.3	133.4
Trucks	5,409,000	100,157,440	198.0	1,179.2	889.0	70.7	499.7
Total	7,937,750	139,092,183	209.6	1,201.8	1,051.7	71.9	633.1

Notes: VMT = vehicle miles traveled
ROG = reactive organic compounds
NOx = nitrogen oxides
PM10 = inhalable particulate matter
Annual emission estimates assume 250 working days per year.
Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.
Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE M-47. SUMMARY OF TRAIN TYPE DATA USED FOR EMISSIONS ANALYSES

TRAIN TYPE	TYPICAL LENGTH (FEET)	AVERAGE GROSS TONS	# OF ENGINES	ENGINE MIX FACTOR	CHASIS MODEL	ENGINE DUTY CYCLE	DATABASE CODE	EMISSION RATE, LBS PER 1,000 TON-MILES				
								ROG	NOx	CO	SOx	PM10
AMTRAK	600	500	1	100%	F59PHI	LINE	22	0.011	0.727	0.071	0.011	0.017
AMTRAK	1200	1000	2	100%	GP40	LINE	17	0.032	0.755	0.115	0.011	0.018
SWITCHER	300	350	1	100%	SW1500	YARD	3	0.051	0.819	0.120	0.011	0.022
FREIGHT	1200	1500	2	100%	GP9	LINE	11	0.045	0.814	0.136	0.011	0.018
FREIGHT	6000	6500	4	68%	GP40	LINE	17	0.032	0.755	0.115	0.073	0.018
				32%	SD45	LINE	29	0.032	0.731	0.084	0.073	0.018
FREIGHT	7500	8000	6	68%	GP40	LINE	17	0.032	0.755	0.115	0.073	0.018
				32%	SD45	LINE	29	0.032	0.731	0.084	0.073	0.018

SEGMENT:	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY
MILES:	49	56	6	3.5	4	1.5	2	62	43	77

Notes: SOx emission rates assume 0.05% sulfur for Amtrak, yard, and local freight locomotives, and 0.32% sulfur for long haul freight locomotives.

TABLE M-48. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, NO ACTION ALTERNATIVE

TRAIN TYPE	DAILY TRAIN NUMBERS BY RAIL SEGMENT, NO ACTION									
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY
AMT600	12	8	20	20		30	10		10	
AMT1200	4		4	4		10	2		2	
SW300			2	2						
FR1200			4			4	4		2	2
FR6000	9	9	17		17	4	4	4		
TOTAL	25	17	47	26	17	48	20	4	14	2

TRAIN TYPE	DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, NO ACTION										TOTAL FOR ALL SEGMENTS
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	294	224	60.0	35.0	0.0	22.5	10.0	0.0	215.0	0.0	860.5
AMT1200	98	0	12.0	7.0	0.0	7.5	2.0	0.0	43.0	0.0	169.5
SW300	0	0	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5
FR1200	0	0	12.0	0.0	0.0	3.0	4.0	0.0	43.0	49.0	111.0
FR6000	220.5	252	51.0	0.0	34.0	3.0	4.0	124.0	0.0	0.0	688.5
TOTAL	612.5	476	141.0	45.5	34.0	36.0	20.0	124.0	301.0	49.0	1,839.0

TABLE M-49. RAIL TRAFFIC EMISSIONS FOR THE NO ACTION ALTERNATIVE

TRAIN TYPE	ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,202	916	245	143	0	92	41	0	879	0	1.76
AMT1200	1,133	0	139	81	0	87	23	0	497	0	0.98
SW300	0	0	113	66	0	0	0	0	0	0	0.09
FR1200	0	0	199	0	0	50	66	0	713	813	0.92
FR6000	2,558	2,924	592	0	394	35	46	1,439	0	0	3.99
TOTALS	4,894	3,840	1,287	290	394	263	177	1,439	2,090	813	7.74

TRAIN TYPE	ANNUAL NOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	78,056	59,471	15,930	9,292	0	5,974	2,655	0	57,082	0	114.23
AMT1200	27,021	0	3,309	1,930	0	2,068	551	0	11,856	0	23.37
SW300	0	0	1,793	1,046	0	0	0	0	0	0	1.42
FR1200	0	0	3,563	0	0	891	1,188	0	12,768	14,550	16.48
FR6000	60,173	68,769	13,918	0	9,278	819	1,092	33,839	0	0	93.94
TOTALS	165,250	128,241	38,512	12,268	9,278	9,751	5,486	33,839	81,706	14,550	249.44

TABLE M-49. RAIL TRAFFIC EMISSIONS FOR THE NO ACTION ALTERNATIVE

TRAIN TYPE	ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	7,638	5,820	1,559	909	0	585	260	0	5,586	0	11.18
AMT1200	4,107	0	503	293	0	314	84	0	1,802	0	3.55
SW300	0	0	262	153	0	0	0	0	0	0	0.21
FR1200	0	0	598	0	0	149	199	0	2,142	2,441	2.76
FR6000	8,457	9,666	1,956	0	1,304	115	153	4,756	0	0	13.20
TOTALS	20,202	15,485	4,878	1,356	1,304	1,163	696	4,756	9,529	2,441	30.91

TRAIN TYPE	ANNUAL SOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,230	937	251	146	0	94	42	0	900	0	1.80
AMT1200	410	0	50	29	0	31	8	0	180	0	0.35
SW300	0	0	25	15	0	0	0	0	0	0	0.02
FR1200	0	0	50	0	0	13	17	0	180	205	0.23
FR6000	5,905	6,749	1,366	0	911	80	107	3,321	0	0	9.22
TOTALS	7,546	7,686	1,743	190	911	218	174	3,321	1,260	205	11.63

TABLE M-49. RAIL TRAFFIC EMISSIONS FOR THE NO ACTION ALTERNATIVE

TRAIN TYPE	ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,845	1,406	377	220	0	141	63	0	1,350	0	2.70
AMT1200	649	0	80	46	0	50	13	0	285	0	0.56
SW300	0	0	48	28	0	0	0	0	0	0	0.04
FR1200	0	0	80	0	0	20	27	0	285	325	0.37
FR6000	1,457	1,665	337	0	225	20	26	819	0	0	2.27
TOTALS	3,952	3,071	921	294	225	231	129	819	1,919	325	5.94

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
CO = carbon monoxide
SOx = sulfur oxides
PM10 = inhalable particulate matter
A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)
A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch
B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)
C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square
JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments
E = rail segment through Jack London Square
F = rail segment from Jack London Square to Fruitvale
LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore
SAN JOSE = rail segment from Fruitvale to the San Jose area
GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE M-50. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE A

TRAIN TYPE	DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE A									
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY
AMT600	12	8	20	20		30	10		10	
AMT1200	4		4	4		10	2		2	
SW300			2	2						
FR1200			2			4	4		2	2
FR6000	13	13	26		26	4	4	4		
TOTAL	29	21	54	26	26	48	20	4	14	2

TRAIN TYPE	DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE A										TOTAL FOR ALL SEGMENTS
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	294.0	224.0	60.0	35.0	0.0	22.5	10.0	0.0	215.0	0.0	860.5
AMT1200	98.0	0.0	12.0	7.0	0.0	7.5	2.0	0.0	43.0	0.0	169.5
SW300	0.0	0.0	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5
FR1200	0.0	0.0	6.0	0.0	0.0	3.0	4.0	0.0	43.0	77.0	133.0
FR6000	318.5	364.0	78.0	0.0	52.0	3.0	4.0	124.0	0.0	0.0	943.5
TOTAL	710.5	588.0	162.0	45.5	52.0	36.0	20.0	124.0	301.0	77.0	2,116.0

TABLE M-51. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE A

TRAIN TYPE	ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,202	916	245	143	0	92	41	0	879	0	1.76
AMT1200	1,133	0	139	81	0	87	23	0	497	0	0.98
SW300	0	0	113	66	0	0	0	0	0	0	0.09
FR1200	0	0	100	0	0	50	66	0	713	1,277	1.10
FR6000	3,695	4,223	905	0	603	35	46	1,439	0	0	5.47
TOTALS	6,031	5,139	1,501	290	603	263	177	1,439	2,090	1,277	9.41

TRAIN TYPE	ANNUAL NOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	78,056	59,471	15,930	9,292	0	5,974	2,655	0	57,082	0	114.23
AMT1200	27,021	0	3,309	1,930	0	2,068	551	0	11,856	0	23.37
SW300	0	0	1,793	1,046	0	0	0	0	0	0	1.42
FR1200	0	0	1,782	0	0	891	1,188	0	12,768	22,864	19.75
FR6000	86,917	99,333	21,286	0	14,190	819	1,092	33,839	0	0	128.74
TOTALS	191,994	158,805	44,099	12,268	14,190	9,751	5,486	33,839	81,706	22,864	287.50

TABLE M-51. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE A

TRAIN TYPE	ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	7,638	5,820	1,559	909	0	585	260	0	5,586	0	11.18
AMT1200	4,107	0	503	293	0	314	84	0	1,802	0	3.55
SW300	0	0	262	153	0	0	0	0	0	0	0.21
FR1200	0	0	299	0	0	149	199	0	2,142	3,835	3.31
FR6000	12,216	13,962	2,992	0	1,995	115	153	4,756	0	0	18.09
TOTALS	23,961	19,781	5,615	1,356	1,995	1,163	696	4,756	9,529	3,835	36.34

TRAIN TYPE	ANNUAL SOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,230	937	251	146	0	94	42	0	900	0	1.80
AMT1200	410	0	50	29	0	31	8	0	180	0	0.35
SW300	0	0	25	15	0	0	0	0	0	0	0.02
FR1200	0	0	25	0	0	13	17	0	180	322	0.28
FR6000	8,530	9,749	2,089	0	1,393	80	107	3,321	0	0	12.63
TOTALS	10,171	10,686	2,441	190	1,393	218	174	3,321	1,260	322	15.09

TABLE M-51. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE A

TRAIN TYPE	ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,845	1,406	377	220	0	141	63	0	1,350	0	2.70
AMT1200	649	0	80	46	0	50	13	0	285	0	0.56
SW300	0	0	48	28	0	0	0	0	0	0	0.04
FR1200	0	0	40	0	0	20	27	0	285	510	0.44
FR6000	2,104	2,405	515	0	344	20	26	819	0	0	3.12
TOTALS	4,599	3,811	1,059	294	344	231	129	819	1,919	510	6.86

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
CO = carbon monoxide
SOx = sulfur oxides
PM10 = inhalable particulate matter
A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)
A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch
B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)
C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square
JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments
E = rail segment through Jack London Square
F = rail segment from Jack London Square to Fruitvale
LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore
SAN JOSE = rail segment from Fruitvale to the San Jose area
GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE M-52. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE B

TRAIN TYPE	DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE B									
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY
AMT600	12	8	20	20		30	10		10	
AMT1200	4		4	4		10	2		2	
SW300			2	2						
FR1200			2			4	4		2	2
FR6000	10	10	20		20	4	4	4		
TOTAL	26	18	48	26	20	48	20	4	14	2

TRAIN TYPE	DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE B										TOTAL FOR ALL SEGMENTS
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	294.0	224.0	60.0	35.0	0.0	22.5	10.0	0.0	215.0	0.0	860.5
AMT1200	98.0	0.0	12.0	7.0	0.0	7.5	2.0	0.0	43.0	0.0	169.5
SW300	0.0	0.0	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5
FR1200	0.0	0.0	6.0	0.0	0.0	3.0	4.0	0.0	43.0	77.0	133.0
FR6000	245.0	280.0	60.0	0.0	40.0	3.0	4.0	124.0	0.0	0.0	756.0
TOTAL	637.0	504.0	144.0	45.5	40.0	36.0	20.0	124.0	301.0	77.0	1,928.5

TABLE M-53. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE B

TRAIN TYPE	ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,202	916	245	143	0	92	41	0	879	0	1.76
AMT1200	1,133	0	139	81	0	87	23	0	497	0	0.98
SW300	0	0	113	66	0	0	0	0	0	0	0.09
FR1200	0	0	100	0	0	50	66	0	713	1,277	1.10
FR6000	2,843	3,249	696	0	464	35	46	1,439	0	0	4.39
TOTALS	5,178	4,165	1,292	290	464	263	177	1,439	2,090	1,277	8.32

TRAIN TYPE	ANNUAL NOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	78,056	59,471	15,930	9,292	0	5,974	2,655	0	57,082	0	114.23
AMT1200	27,021	0	3,309	1,930	0	2,068	551	0	11,856	0	23.37
SW300	0	0	1,793	1,046	0	0	0	0	0	0	1.42
FR1200	0	0	1,782	0	0	891	1,188	0	12,768	22,864	19.75
FR6000	66,859	76,410	16,374	0	10,916	819	1,092	33,839	0	0	103.15
TOTALS	171,936	135,882	39,187	12,268	10,916	9,751	5,486	33,839	81,706	22,864	261.92

TABLE M-53. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE B

TRAIN TYPE	ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	7,638	5,820	1,559	909	0	585	260	0	5,586	0	11.18
AMT1200	4,107	0	503	293	0	314	84	0	1,802	0	3.55
SW300	0	0	262	153	0	0	0	0	0	0	0.21
FR1200	0	0	299	0	0	149	199	0	2,142	3,835	3.31
FR6000	9,397	10,740	2,301	0	1,534	115	153	4,756	0	0	14.50
TOTALS	21,142	16,559	4,924	1,356	1,534	1,163	696	4,756	9,529	3,835	32.75

TRAIN TYPE	ANNUAL SOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,230	937	251	146	0	94	42	0	900	0	1.80
AMT1200	410	0	50	29	0	31	8	0	180	0	0.35
SW300	0	0	25	15	0	0	0	0	0	0	0.02
FR1200	0	0	25	0	0	13	17	0	180	322	0.28
FR6000	6,562	7,499	1,607	0	1,071	80	107	3,321	0	0	10.12
TOTALS	8,202	8,436	1,958	190	1,071	218	174	3,321	1,260	322	12.58

TABLE M-53. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE B

TRAIN TYPE	ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,845	1,406	377	220	0	141	63	0	1,350	0	2.70
AMT1200	649	0	80	46	0	50	13	0	285	0	0.56
SW300	0	0	48	28	0	0	0	0	0	0	0.04
FR1200	0	0	40	0	0	20	27	0	285	510	0.44
FR6000	1,619	1,850	396	0	264	20	26	819	0	0	2.50
TOTALS	4,114	3,256	940	294	264	231	129	819	1,919	510	6.24

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
CO = carbon monoxide
SOx = sulfur oxides
PM10 = inhalable particulate matter
A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)
A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch
B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)
C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square
JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments
E = rail segment through Jack London Square
F = rail segment from Jack London Square to Fruitvale
LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore
SAN JOSE = rail segment from Fruitvale to the San Jose area
GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE M-54. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE C

TRAIN TYPE	DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE C									
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY
AMT600	12	8	20	20		30	10		10	
AMT1200	4		4	4		10	2		2	
SW300			2	2						
FR1200			2			4	4		2	2
FR6000	14	13	27		27	4	4	4		
TOTAL	30	21	55	26	27	48	20	4	14	2

TRAIN TYPE	DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE C										TOTAL FOR ALL SEGMENTS
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	294.0	224.0	60.0	35.0	0.0	22.5	10.0	0.0	215.0	0.0	860.5
AMT1200	98.0	0.0	12.0	7.0	0.0	7.5	2.0	0.0	43.0	0.0	169.5
SW300	0.0	0.0	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5
FR1200	0.0	0.0	6.0	0.0	0.0	3.0	4.0	0.0	43.0	77.0	133.0
FR6000	343.0	364.0	81.0	0.0	54.0	3.0	4.0	124.0	0.0	0.0	973.0
TOTAL	735.0	588.0	165.0	45.5	54.0	36.0	20.0	124.0	301.0	77.0	2,145.5

TABLE M-55. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE C

TRAIN TYPE	ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,202	916	245	143	0	92	41	0	879	0	1.76
AMT1200	1,133	0	139	81	0	87	23	0	497	0	0.98
SW300	0	0	113	66	0	0	0	0	0	0	0.09
FR1200	0	0	100	0	0	50	66	0	713	1,277	1.10
FR6000	3,980	4,223	940	0	627	35	46	1,439	0	0	5.64
TOTALS	6,315	5,139	1,536	290	627	263	177	1,439	2,090	1,277	9.58

TRAIN TYPE	ANNUAL NOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	78,056	59,471	15,930	9,292	0	5,974	2,655	0	57,082	0	114.23
AMT1200	27,021	0	3,309	1,930	0	2,068	551	0	11,856	0	23.37
SW300	0	0	1,793	1,046	0	0	0	0	0	0	1.42
FR1200	0	0	1,782	0	0	891	1,188	0	12,768	22,864	19.75
FR6000	93,603	99,333	22,104	0	14,736	819	1,092	33,839	0	0	132.76
TOTALS	198,680	158,805	44,917	12,268	14,736	9,751	5,486	33,839	81,706	22,864	291.53

TABLE M-55. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE C

TRAIN TYPE	ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	7,638	5,820	1,559	909	0	585	260	0	5,586	0	11.18
AMT1200	4,107	0	503	293	0	314	84	0	1,802	0	3.55
SW300	0	0	262	153	0	0	0	0	0	0	0.21
FR1200	0	0	299	0	0	149	199	0	2,142	3,835	3.31
FR6000	13,156	13,962	3,107	0	2,071	115	153	4,756	0	0	18.66
TOTALS	24,901	19,781	5,730	1,356	2,071	1,163	696	4,756	9,529	3,835	36.91

TRAIN TYPE	ANNUAL SOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,230	937	251	146	0	94	42	0	900	0	1.80
AMT1200	410	0	50	29	0	31	8	0	180	0	0.35
SW300	0	0	25	15	0	0	0	0	0	0	0.02
FR1200	0	0	25	0	0	13	17	0	180	322	0.28
FR6000	9,186	9,749	2,169	0	1,446	80	107	3,321	0	0	13.03
TOTALS	10,827	10,686	2,521	190	1,446	218	174	3,321	1,260	322	15.48

TABLE M-55. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE C

TRAIN TYPE	ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,845	1,406	377	220	0	141	63	0	1,350	0	2.70
AMT1200	649	0	80	46	0	50	13	0	285	0	0.56
SW300	0	0	48	28	0	0	0	0	0	0	0.04
FR1200	0	0	40	0	0	20	27	0	285	510	0.44
FR6000	2,266	2,405	535	0	357	20	26	819	0	0	3.21
TOTALS	4,761	3,811	1,079	294	357	231	129	819	1,919	510	6.96

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
CO = carbon monoxide
SOx = sulfur oxides
PM10 = inhalable particulate matter
A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)
A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch
B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)
C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square
JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments
E = rail segment through Jack London Square
F = rail segment from Jack London Square to Fruitvale
LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore
SAN JOSE = rail segment from Fruitvale to the San Jose area
GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE M-56. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE D

TRAIN TYPE	DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE D									
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY
AMT600	12	8	20	20		30	10		10	
AMT1200	4		4	4		10	2		2	
SW300			2	2						
FR1200			2			4	4		2	2
FR6000	14	13	27		27	4	4	4		
TOTAL	30	21	55	26	27	48	20	4	14	2

TRAIN TYPE	DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE D										TOTAL FOR ALL SEGMENTS
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	294.0	224.0	60.0	35.0	0.0	22.5	10.0	0.0	215.0	0.0	860.5
AMT1200	98.0	0.0	12.0	7.0	0.0	7.5	2.0	0.0	43.0	0.0	169.5
SW300	0.0	0.0	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5
FR1200	0.0	0.0	6.0	0.0	0.0	3.0	4.0	0.0	43.0	77.0	133.0
FR6000	343.0	364.0	81.0	0.0	54.0	3.0	4.0	124.0	0.0	0.0	973.0
TOTAL	735.0	588.0	165.0	45.5	54.0	36.0	20.0	124.0	301.0	77.0	2,145.5

TABLE M-57. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE D

TRAIN TYPE	ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	1,202	916	245	143	0	92	41	0	879	0	1.76
AMT1200	1,133	0	139	81	0	87	23	0	497	0	0.98
SW300	0	0	113	66	0	0	0	0	0	0	0.09
FR1200	0	0	100	0	0	50	66	0	713	1,277	1.10
FR6000	3,980	4,223	940	0	627	35	46	1,439	0	0	5.64
TOTALS	6,315	5,139	1,536	290	627	263	177	1,439	2,090	1,277	9.58

TRAIN TYPE	ANNUAL NOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D										TOTAL TONS/YR
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	
AMT600	78,056	59,471	15,930	9,292	0	5,974	2,655	0	57,082	0	114.23
AMT1200	27,021	0	3,309	1,930	0	2,068	551	0	11,856	0	23.37
SW300	0	0	1,793	1,046	0	0	0	0	0	0	1.42
FR1200	0	0	1,782	0	0	891	1,188	0	12,768	22,864	19.75
FR6000	93,603	99,333	22,104	0	14,736	819	1,092	33,839	0	0	132.76
TOTALS	198,680	158,805	44,917	12,268	14,736	9,751	5,486	33,839	81,706	22,864	291.53

TABLE M-57. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE D

TRAIN TYPE	ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	7,638	5,820	1,559	909	0	585	260	0	5,586	0	11.18
AMT1200	4,107	0	503	293	0	314	84	0	1,802	0	3.55
SW300	0	0	262	153	0	0	0	0	0	0	0.21
FR1200	0	0	299	0	0	149	199	0	2,142	3,835	3.31
FR6000	13,156	13,962	3,107	0	2,071	115	153	4,756	0	0	18.66
TOTALS	24,901	19,781	5,730	1,356	2,071	1,163	696	4,756	9,529	3,835	36.91

TRAIN TYPE	ANNUAL SOx EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,230	937	251	146	0	94	42	0	900	0	1.80
AMT1200	410	0	50	29	0	31	8	0	180	0	0.35
SW300	0	0	25	15	0	0	0	0	0	0	0.02
FR1200	0	0	25	0	0	13	17	0	180	322	0.28
FR6000	9,186	9,749	2,169	0	1,446	80	107	3,321	0	0	13.03
TOTALS	10,827	10,686	2,521	190	1,446	218	174	3,321	1,260	322	15.48

TABLE M-57. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE D

TRAIN TYPE	ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D										TOTAL
	A-SAC	A-SJ	B	C/D	JIT	E	F	LATHROP	SAN JOSE	GILROY	TONS/YR
AMT600	1,845	1,406	377	220	0	141	63	0	1,350	0	2.70
AMT1200	649	0	80	46	0	50	13	0	285	0	0.56
SW300	0	0	48	28	0	0	0	0	0	0	0.04
FR1200	0	0	40	0	0	20	27	0	285	510	0.44
FR6000	2,266	2,405	535	0	357	20	26	819	0	0	3.21
TOTALS	4,761	3,811	1,079	294	357	231	129	819	1,919	510	6.96

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
CO = carbon monoxide
SOx = sulfur oxides
PM10 = inhalable particulate matter
A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)
A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch
B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)
C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square
JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments
E = rail segment through Jack London Square
F = rail segment from Jack London Square to Fruitvale
LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore
SAN JOSE = rail segment from Fruitvale to the San Jose area
GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE M-58. EMISSIONS FROM PORT OF OAKLAND RAIL TRAFFIC

ALTERNATIVE	ANNUAL BAY AREA EMISSIONS, TONS/YEAR				
	ROG	NOx	CO	SOx	PM10
NO ACTION	7.74	249.44	30.91	11.63	5.94
ALTERNATIVE A	9.41	287.50	36.34	15.09	6.86
ALTERNATIVE B	8.32	261.92	32.75	12.58	6.24
ALTERNATIVE C	9.58	291.53	36.91	15.48	6.96
ALTERNATIVE D	9.58	291.53	36.91	15.48	6.96
	NET INCREASE IN BAY AREA EMISSIONS, TONS/YEAR				
	ROG	NOx	CO	SOx	PM10
ALTERNATIVE A	1.66	38.06	5.44	3.46	0.92
ALTERNATIVE B	0.57	12.48	1.84	0.95	0.30
ALTERNATIVE C	1.83	42.09	6.00	3.86	1.01
ALTERNATIVE D	1.83	42.09	6.00	3.86	1.01

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
CO = carbon monoxide
SOx = sulfur oxides
PM10 = inhalable particulate matter

TABLE M-59. PORT OF OAKLAND SHIP CALL PROFILE

Type of Vessel	Steam or Diesel	Vessel Tonnage (1,000 DWT)	Percent of 1991 Vessel Calls	Percent of 2010 Vessel Calls	Mean Hours Moored	100% Power Fuel Use (gal/hr)
Container Ships	Diesel	0 - 25	17.8%	6.3%	30.6	355
		25 - 50	37.0%	41.1%	30.6	486
		50 - 75	6.6%	12.6%	33.0	649
		75 - 100	1.9%	3.2%	35.4	797
		100+	0.0%	0.0%		960
	Steam	0 - 25	1.2%	1.2%	30.6	789
		25 - 50	7.0%	7.0%	30.6	887
		50 - 75	0.9%	0.9%	30.6	1,008
		75 - 100	0.0%	0.0%		1,117
		100+	0.0%	0.0%		1,239
Tankers & Bulk Carriers	Diesel	0 - 25	4.2%	4.2%	25.8	2,064
		25 - 50	5.9%	5.9%	45.0	4,194
		50 - 75	0.7%	0.7%	49.8	6,857
		75 - 100	0.5%	0.5%	45.0	9,253
		100+	0.0%	0.0%		11,916
	Steam	0 - 25	0.5%	0.5%	25.8	789
		25 - 50	2.8%	2.8%	37.8	887
		50 - 75	0.9%	0.9%	49.8	1,008
		75 - 100	1.4%	1.4%	45.0	1,117
		100+	0.0%	0.0%		1,239
General Cargo, Vehicle Carriers, RO-RO/Lash, Ocean Tugs	Diesel	0 - 25	7.0%	7.0%	53.4	355
		25 - 50	1.9%	1.9%	72.6	486
		50 - 75	1.9%	1.9%	72.6	649
		75 - 100	0.0%	0.0%		797
		100+	0.0%	0.0%		960

Notes: 1991 vessel call data from California Air Resources Board, 1991. Future vessel tonnage class estimates assume that diesel container ship sizes will increase.

TABLE M-60. EMISSION RATE DATA FOR MARINE VESSELS

Vessel Type and Power Setting	Port of Oakland: Time In Mode (hours)	Port of Oakland: Average Fuel Use Factor	Emission Rate, Lbs per 1,000 Gallons of Fuel: ROG	NOx	CO	SOx	PM10
Steam Boiler Propulsion							
Full Throttle	1.7	80%	1.72	63.6	7.27	318	56.5
Half Throttle	0.4	40%	0.682	55.8	3.45	318	20
One-Third/Slow	0.6	20%	0.682	55.8	3.45	318	20
Hotelling							
Bunker Fuel		10%	3.2	36.4	0	318	10
Distillate Oil		10%	3	22.2	4	113.6	15
Marine Diesel Propulsion							
Full Throttle	1.7	80%	24	550	61	125.6	33
Half Throttle	0.4	40%	24	550	61	125.6	33
One-Third/Slow	0.6	20%	24	550	61	125.6	33

Diesel Generators	Emission Rate, Pounds per Hour of Use: ROG	NOx	CO	SOx	PM10
500 kW	0.49	15.43	3.53	1.08	0.36

Notes: Fuel sulfur content assumed to be 2% for bunker fuels, 0.8% for marine diesel and distillate fuels, and 0.2% for diesel generator fuels.
About 80% of steam ship hotelling uses distillate fuels, 20% uses bunker fuels.
The typical generator size for marine diesel vessels is 500 kW.
Emission rates for diesel generators based on AP-42, Supplement F, section 3.4.

TABLE M-61. MARINE VESSEL EMISSIONS FOR THE NO ACTION ALTERNATIVE

Type of Vessel	Steam or Diesel	Vessel Tonnage (1,000 DWT)	Annual Ship Calls	No Action Alternative Annual Bay Area Emissions, Tons/Year ROG	NOx	CO	SOx	PM10
Container Ships	Diesel	0 - 25	67	1.43	37.27	6.00	6.01	1.65
		25 - 50	433	11.50	292.05	44.42	50.53	13.76
		50 - 75	133	4.46	111.72	16.38	20.16	5.46
		75 - 100	33	1.32	32.74	4.69	6.05	1.63
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	12	0.07	1.33	0.15	7.18	0.98
		25 - 50	74	0.47	9.22	1.03	49.75	6.82
		50 - 75	10	0.07	1.42	0.16	7.64	1.05
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Tankers & Bulk Carriers	Diesel	0 - 25	44	3.85	90.68	11.09	19.32	5.12
		25 - 50	62	10.91	256.07	30.93	55.07	14.57
		50 - 75	7	1.97	45.98	5.42	10.08	2.66
		75 - 100	5	1.88	43.47	5.03	9.65	2.54
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	5	0.03	0.53	0.06	2.84	0.40
		25 - 50	30	0.22	3.98	0.45	21.65	2.90
		50 - 75	10	0.10	1.66	0.19	9.13	1.18
		75 - 100	15	0.16	2.65	0.30	14.56	1.91
		100+	0	0.00	0.00	0.00	0.00	0.00
General Cargo, Vehicle Carriers, RO-RO/Lash, Ocean Tugs	Diesel	0 - 25	74	1.99	54.19	9.60	7.55	2.13
		25 - 50	20	0.73	19.97	3.53	2.79	0.79
		50 - 75	20	0.86	22.91	3.86	3.46	0.96
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Container Ships			762	19.3	485.8	72.8	147.3	31.4
Bulk Carriers			178	19.1	445.0	53.5	142.3	31.3
General Cargo			114	3.6	97.1	17.0	13.8	3.9
Total			1,054	42.0	1,027.8	143.3	303.4	66.5

TABLE M-62. MARINE VESSEL EMISSIONS FOR ALTERNATIVE A

Type of Vessel	Steam or Diesel	Vessel Tonnage (1,000 DWT)	Annual Ship Calls	Alternative A Annual Bay Area Emissions, Tons/Year ROG	NOx	CO	SOx	PM10
Container Ships	Diesel	0 - 25	104	2.22	57.86	9.31	9.33	2.57
		25 - 50	673	17.87	453.93	69.04	78.54	21.39
		50 - 75	207	6.94	173.89	25.49	31.38	8.50
		75 - 100	52	2.08	51.59	7.39	9.54	2.57
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	19	0.11	2.11	0.24	11.36	1.56
		25 - 50	115	0.73	14.32	1.61	77.31	10.59
		50 - 75	15	0.11	2.12	0.24	11.46	1.57
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Tankers & Bulk Carriers	Diesel	0 - 25	69	6.04	142.20	17.39	30.30	8.03
		25 - 50	96	16.89	396.50	47.90	85.28	22.56
		50 - 75	12	3.38	78.83	9.29	17.27	4.56
		75 - 100	8	3.00	69.55	8.04	15.44	4.07
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	8	0.04	0.85	0.09	4.55	0.63
		25 - 50	46	0.34	6.10	0.69	33.19	4.44
		50 - 75	15	0.15	2.49	0.28	13.70	1.77
		75 - 100	23	0.24	4.07	0.46	22.33	2.93
		100+	0	0.00	0.00	0.00	0.00	0.00
General Cargo, Vehicle Carriers, RO-RO/Lash, Ocean Tugs	Diesel	0 - 25	115	3.10	84.21	14.92	11.74	3.31
		25 - 50	31	1.14	30.96	5.48	4.32	1.22
		50 - 75	31	1.34	35.51	5.98	5.36	1.49
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Container Ships			1,185	30.1	755.8	113.3	228.9	48.8
Bulk Carriers			277	30.1	700.6	84.1	222.1	49.0
General Cargo			177	5.6	150.7	26.4	21.4	6.0
Total			1,639	65.7	1,607.1	223.8	472.4	103.8

TABLE M-63. MARINE VESSEL EMISSIONS FOR ALTERNATIVE B

Type of Vessel	Steam or Diesel	Vessel Tonnage (1,000 DWT)	Annual Ship Calls	Alternative B Annual Bay Area Emissions, Tons/Year ROG	NOx	CO	SOx	PM10
Container Ships	Diesel	0 - 25	84	1.80	46.73	7.52	7.54	2.07
		25 - 50	545	14.47	367.60	55.91	63.60	17.32
		50 - 75	168	5.64	141.13	20.69	25.47	6.89
		75 - 100	42	1.68	41.67	5.97	7.70	2.08
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	16	0.09	1.77	0.20	9.57	1.31
		25 - 50	93	0.59	11.58	1.30	62.52	8.57
		50 - 75	12	0.09	1.70	0.19	9.17	1.26
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Tankers & Bulk Carriers	Diesel	0 - 25	56	4.90	115.41	14.11	24.59	6.51
		25 - 50	78	13.73	322.16	38.92	69.29	18.33
		50 - 75	9	2.54	59.12	6.96	12.95	3.42
		75 - 100	6	2.25	52.16	6.03	11.58	3.05
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	6	0.03	0.64	0.07	3.41	0.48
		25 - 50	37	0.27	4.90	0.55	26.70	3.57
		50 - 75	12	0.12	1.99	0.23	10.96	1.42
		75 - 100	19	0.20	3.36	0.38	18.44	2.42
		100+	0	0.00	0.00	0.00	0.00	0.00
General Cargo, Vehicle Carriers, RO-RO/Lash, Ocean Tugs	Diesel	0 - 25	93	2.50	68.10	12.06	9.49	2.68
		25 - 50	25	0.92	24.96	4.42	3.49	0.98
		50 - 75	25	1.08	28.64	4.82	4.33	1.20
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Container Ships			960	24.4	612.2	91.8	185.6	39.5
Bulk Carriers			223	24.0	559.7	67.3	177.9	39.2
General Cargo			143	4.5	121.7	21.3	17.3	4.9
Total			1,326	52.9	1,293.6	180.3	380.8	83.6

TABLE M-64. MARINE VESSEL EMISSIONS FOR ALTERNATIVE C

Type of Vessel	Steam or Diesel	Vessel Tonnage (1,000 DWT)	Annual Ship Calls	Alternative C Annual Bay Area Emissions, Tons/Year ROG	NOx	CO	SOx	PM10
Container Ships	Diesel	0 - 25	108	2.31	60.08	9.66	9.69	2.67
		25 - 50	700	18.58	472.14	71.81	81.69	22.25
		50 - 75	215	7.21	180.61	26.47	32.59	8.82
		75 - 100	54	2.16	53.57	7.68	9.90	2.67
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	20	0.11	2.22	0.25	11.96	1.64
		25 - 50	120	0.76	14.95	1.68	80.67	11.05
		50 - 75	16	0.12	2.26	0.25	12.22	1.68
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Tankers & Bulk Carriers	Diesel	0 - 25	72	6.30	148.38	18.14	31.62	8.38
		25 - 50	100	17.60	413.02	49.89	88.83	23.50
		50 - 75	12	3.38	78.83	9.29	17.27	4.56
		75 - 100	8	3.00	69.55	8.04	15.44	4.07
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	8	0.04	0.85	0.09	4.55	0.63
		25 - 50	48	0.35	6.36	0.72	34.64	4.64
		50 - 75	16	0.16	2.65	0.30	14.61	1.89
		75 - 100	24	0.25	4.25	0.48	23.30	3.05
		100+	0	0.00	0.00	0.00	0.00	0.00
General Cargo, Vehicle Carriers, RO-RO/Lash, Ocean Tugs	Diesel	0 - 25	120	3.23	87.87	15.56	12.25	3.45
		25 - 50	32	1.18	31.95	5.65	4.46	1.26
		50 - 75	32	1.38	36.66	6.18	5.54	1.54
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Container Ships			1,233	31.3	785.8	117.8	238.7	50.8
Bulk Carriers			288	31.1	723.9	87.0	230.3	50.7
General Cargo			184	5.8	156.5	27.4	22.3	6.3
Total			1,705	68.1	1,666.2	232.2	491.2	107.8

TABLE M-65. MARINE VESSEL EMISSIONS FOR ALTERNATIVE D

Type of Vessel	Steam or Diesel	Vessel Tonnage (1,000 DWT)	Annual Ship Calls	Alternative D Annual Bay Area Emissions, Tons/Year ROG	NOx	CO	SOx	PM10
Container Ships	Diesel	0 - 25	106	2.27	58.97	9.49	9.51	2.62
		25 - 50	690	18.32	465.40	70.79	80.53	21.93
		50 - 75	212	7.11	178.09	26.10	32.14	8.70
		75 - 100	53	2.12	52.58	7.53	9.72	2.62
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	20	0.11	2.22	0.25	11.96	1.64
		25 - 50	118	0.75	14.70	1.65	79.32	10.87
		50 - 75	16	0.12	2.26	0.25	12.22	1.68
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Tankers & Bulk Carriers	Diesel	0 - 25	71	6.21	146.32	17.89	31.18	8.26
		25 - 50	98	17.25	404.76	48.90	87.05	23.03
		50 - 75	12	3.38	78.83	9.29	17.27	4.56
		75 - 100	8	3.00	69.55	8.04	15.44	4.07
		100+	0	0.00	0.00	0.00	0.00	0.00
	Steam	0 - 25	8	0.04	0.85	0.09	4.55	0.63
		25 - 50	47	0.35	6.23	0.70	33.91	4.54
		50 - 75	16	0.16	2.65	0.30	14.61	1.89
		75 - 100	24	0.25	4.25	0.48	23.30	3.05
		100+	0	0.00	0.00	0.00	0.00	0.00
General Cargo, Vehicle Carriers, RO-RO/Lash, Ocean Tugs	Diesel	0 - 25	118	3.18	86.41	15.30	12.05	3.40
		25 - 50	31	1.14	30.96	5.48	4.32	1.22
		50 - 75	31	1.34	35.51	5.98	5.36	1.49
		75 - 100	0	0.00	0.00	0.00	0.00	0.00
		100+	0	0.00	0.00	0.00	0.00	0.00
Container Ships			1,215	30.8	774.2	116.1	235.4	50.1
Bulk Carriers			284	30.6	713.4	85.7	227.3	50.0
General Cargo			180	5.7	152.9	26.8	21.7	6.1
Total			1,679	67.1	1,640.5	228.5	484.5	106.2

TABLE M-66. SUMMARY OF MARINE VESSEL EMISSION ESTIMATES

Alternative	Annual Ship Calls	Annual Bay Area Emissions, Tons/Year				
		ROG	NOx	CO	SOx	PM10
No Action	1,054	42.0	1,027.8	143.3	303.4	66.5
Alternative A	1,639	65.7	1,607.1	223.8	472.4	103.8
Alternative B	1,326	52.9	1,293.6	180.3	380.8	83.6
Alternative C	1,705	68.1	1,666.2	232.2	491.2	107.8
Alternative D	1,679	67.1	1,640.5	228.5	484.5	106.2
		Net Increase in Bay Area Emissions, Tons/Year				
		ROG	NOx	CO	SOx	PM10
Alternative A		23.7	579.2	80.5	169.0	37.3
Alternative B		10.9	265.8	37.1	77.4	17.1
Alternative C		26.1	638.4	88.9	187.8	41.2
Alternative D		25.1	612.7	85.2	181.0	39.7